2019 Annual Groundwater Monitoring and Corrective Action Report

Burlington Generating Station
Burlington, Iowa

Prepared for:

Alliant Energy

SCS ENGINEERS

25219066.00 | January 31, 2020

2830 Dairy Drive
Madison, WI 53718-6751
608-224-2830

Table of Contents

Section Page

Tables

Figures

Appendices

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1.0 INTRODUCTION

This 2019 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the Coal Combustion Residuals (CCR) Rule [40 CFR 257.50-107]. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.90(e). The applicable sections of the Rule are provided below in italics, followed by applicable information relative to the 2019 Annual Groundwater Monitoring and Corrective Action Report for the CCR Units.

This report covers the period of groundwater monitoring from January 1, 2019, through December 31, 2019.

The groundwater monitoring system at the Burlington Generating Station (BGS) impoundments is a multi-unit system. The BGS facility includes four existing CCR units:

- BGS Ash Seal Pond (existing CCR surface impoundment)
- BGS Main Ash Pond (existing CCR surface impoundment)
- BGS Economizer Ash Pond (existing CCR surface impoundment)
- BGS Upper Ash Pond (existing CCR surface impoundment)

The multi-unit system is designed to detect monitored constituents at the waste boundary of the facility as required by 40 CFR 257.91(d). The groundwater monitoring system currently consists of two upgradient monitoring wells, nine downgradient wells at the compliance waste boundary, and two additional downgradient wells.

2.0 §257.90(E) ANNUAL REPORT REQUIREMENTS

Annual groundwater monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. 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:

2.1 §257.90(e)(1) Site Map

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;

A map of the site location is provided on **Figure 1**. A map with an aerial image showing the CCR units and all background (or upgradient) and downgradient monitoring wells with identification numbers for the groundwater monitoring program is provided as **Figure 2**.

2.2 §257.90(E)(2) MONITORING SYSTEM CHANGES

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;

Two monitoring wells, MW-312 and MW-313, were installed on May 20 and 21, 2019, to characterize site conditions in accordance with §257.95(g)(1). The monitoring well boring logs and well construction forms were completed for the operating record on September 20, 2019.

2.3 §257.90(E)(3) SUMMARY OF SAMPLING EVENTS

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;

Three groundwater sampling events were completed in 2019. The two semiannual sampling events were completed in April 2019 and October 2019 as required by the assessment monitoring program. Initial samples for the two newly installed monitoring wells were collected in June 2019. The new monitoring wells were also sampled in October 2019, as part of the second semiannual sampling event.

Groundwater samples collected in the April, June, and October 2019 sampling events were analyzed for both Appendix III and Appendix IV constituents. 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 is included in **Table 1**. The results of the analytical laboratory analyses are provided in the laboratory reports in **Appendix A**.

2.4 §257.90(E)(4) MONITORING TRANSITION NARRATIVE

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);

An Assessment of Corrective Measures (ACM) was initiated for the BGS CCR Units in April 2019, and completed in September 2019. The selection of remedy is in progress. The ACM was initiated in response to the detection of lithium and molybdenum at a statistically significant level exceeding the Groundwater Protection Standards (GPS). Assessment monitoring continued during the ACM and will continue during the selection of remedy.

2.5 §257.90(E)(5) OTHER REQUIREMENTS

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

Additional potentially applicable requirements for the annual report, and the location of the requirement within the Rule, are provided in the following sections. For each cited section of the

Rule, the portion referencing the annual report requirement is provided below in italics, followed by applicable information relative to the 2019 Annual Groundwater Monitoring and Corrective Action Report.

2.5.1 §257.90(e) General Requirements

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.

Status of Groundwater Monitoring and Corrective Action Program. The groundwater monitoring and corrective action program is currently in the selection of remedy process, with assessment monitoring continuing.

Summary of Key Actions Completed:

- Statistical evaluation for the initial Assessment Monitoring samples collected in May, August, and October 2018, completed January 14, 2019.
- Statistical evaluation for the April 2019 monitoring event, completed July 15, 2019.
- Initiation of the ACM on April 15, 2019.
- Two semiannual assessment monitoring events (April and October 2019).
- Installation of two additional compliance groundwater monitoring wells (May 2019) to characterize site conditions in accordance with §257.95(g)(1).
- A sampling event for the new monitoring wells (June 2019).
- Preparation of the ACM report, completed September 12, 2019.

Description of Any Problems Encountered:

- No problems were encountered during the groundwater sampling events in 2019.

Discussion of Actions to Resolve the Problems:

- Not applicable.

Projection of Key Activities for the Upcoming Year (2020):

- Statistical evaluation and determination of any statistically significant levels exceeding the GPS for the October 2019 monitoring event (January 2020).
- Statistical evaluation and determination of any statistically significant levels exceeding the GPS for the April 2020 monitoring event (July 2020).
- Continued work on the selection of remedy in accordance with §257.97.

- Installation of up to four additional monitoring wells to characterize site conditions for the selection of remedy (winter 2020).
- Semiannual progress reports for the Selection of Remedy process (March and September 2020).
- Two semiannual assessment monitoring events (April and October 2020).

2.5.2 §257.94(d) Alternative Detection Monitoring Frequency

The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer in the annual groundwater monitoring and corrective action report required by § 257.90(e).

Not applicable. BGS is no longer in the detection monitoring program.

2.5.3 §257.94(e)(2) Alternative Source Demonstration for Detection Monitoring

The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

Not applicable. BGS is no longer in the detection monitoring program.

2.5.4 §257.95(c) Alternative Assessment Monitoring Frequency

The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer in the annual groundwater monitoring and corrective action report required by §257.90(e).

Not applicable. Assessment monitoring has been initiated at the site but no alternative assessment monitoring frequency has been proposed at this time.

2.5.5 §257.95(d)(3) Assessment Monitoring Results and Standards

Include the recorded concentrations required by paragraph (d)(1) of this section, identify the background concentrations established under § 257.94(b), and identify the groundwater protection standards established under paragraph (d)(2) of this section in the annual groundwater monitoring and corrective action report required by §257.90(e).

The recorded concentrations for the assessment monitoring events are in the laboratory reports in Appendix A. The background concentrations established under 257.94(b) were provided in Appendix A of the 2017 Annual Groundwater Monitoring and Corrective Action Report. The groundwater protection standards established for the BGS CCR units are provided in Table 2.

2.5.6 §257.95(g)(3)(ii) Alternative Source Demonstration for Assessment Monitoring

The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

An Alternative Source Demonstration (ASD) was completed in April 2019 and is included in Appendix B.

2.5.7 §257.96(a) Extension of Time for Corrective Measures Assessment

The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measure due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer attesting that the demonstration is accurate. The 90-day deadline to complete the assessment of corrective measures may be extended for longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

The ACM was initiated at the site on July 15, 2019. The July 10, 2019 certification demonstrating the need for a 90-day deadline extension is included in Appendix C. The ACM was completed on September 12, 2019.

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Tables

Table 1. CCR Rule Groundwater Samples Summary
Burlington Generating Station / SCS Engineers Project #25219066.00

	Downgradient Wells											Background Wells	
Sample Dates	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-312	MW-313	MW-310	MW-311
4/3-4/2019	A	A	A	A	A	A	A	A	A	NI	NI	A	A
6/6/2019	--	--	--	--	--	--	--	--	--	A	A	--	--
10/10-11/2019	A	A	A	A	A	A	A	A	A	A	A	A	A
Total Samples	2	2	2	2	2	2	2	2	2	2	2	2	2

Abbreviations:
A = Required by Assessment Monitoring Program
NI = Not Installed

Created by: TK Date: 12/29/2017
Last revision by: LWJ Date: 11/25/2019
Checked by: NDK Date: 1/6/2020

I:\25219066.00\Deliverables\2019 Annual GW Report\Tables\[Table 1 GW_Samples_Summary_Table_BGS.xlsx]GW Summary

Table 2. Groundwater Protection Standards - CCR Program - Assessment Monitoring
Burlington Generating Station, Burlington, IA / SCS Engineers Project #25219066.00

Parameter Name	GPS	Source
Antimony, ug/L	6	MCL
Arsenic, ug/L	115	Background (UPL)
Barium, ug/L	2000	MCL
Beryllium, ug/L	4	MCL
Cadmium, ug/L	5	MCL
Chromium, ug/L	100	MCL
Cobalt, ug/L	6	40 CFR 257.95(h)(2)
Fluoride, mg/L	4	MCL
Lead, ug/L	15	40 CFR 257.95(h)(2)
Lithium, ug/L	40	40 CFR 257.95(h)(2)
Mercury, ug/L	2	MCL
Molybdenum, ug/L	100	40 CFR 257.95(h)(2)
Selenium, ug/L	50	MCL
Thallium, ug/L	2	MCL
Radium 226/228 Combined, pCi/L	5	MCL

Abbreviations:
GPS = Groundwater Protection Standard
MCL = Maximum Contaminant Level established under 40 CFR 141.62 and 141.66
UPL = Upper Prediction Limit.

Created by: NDK, 1/9/2019
Checked by: MDB, 1/9/2019

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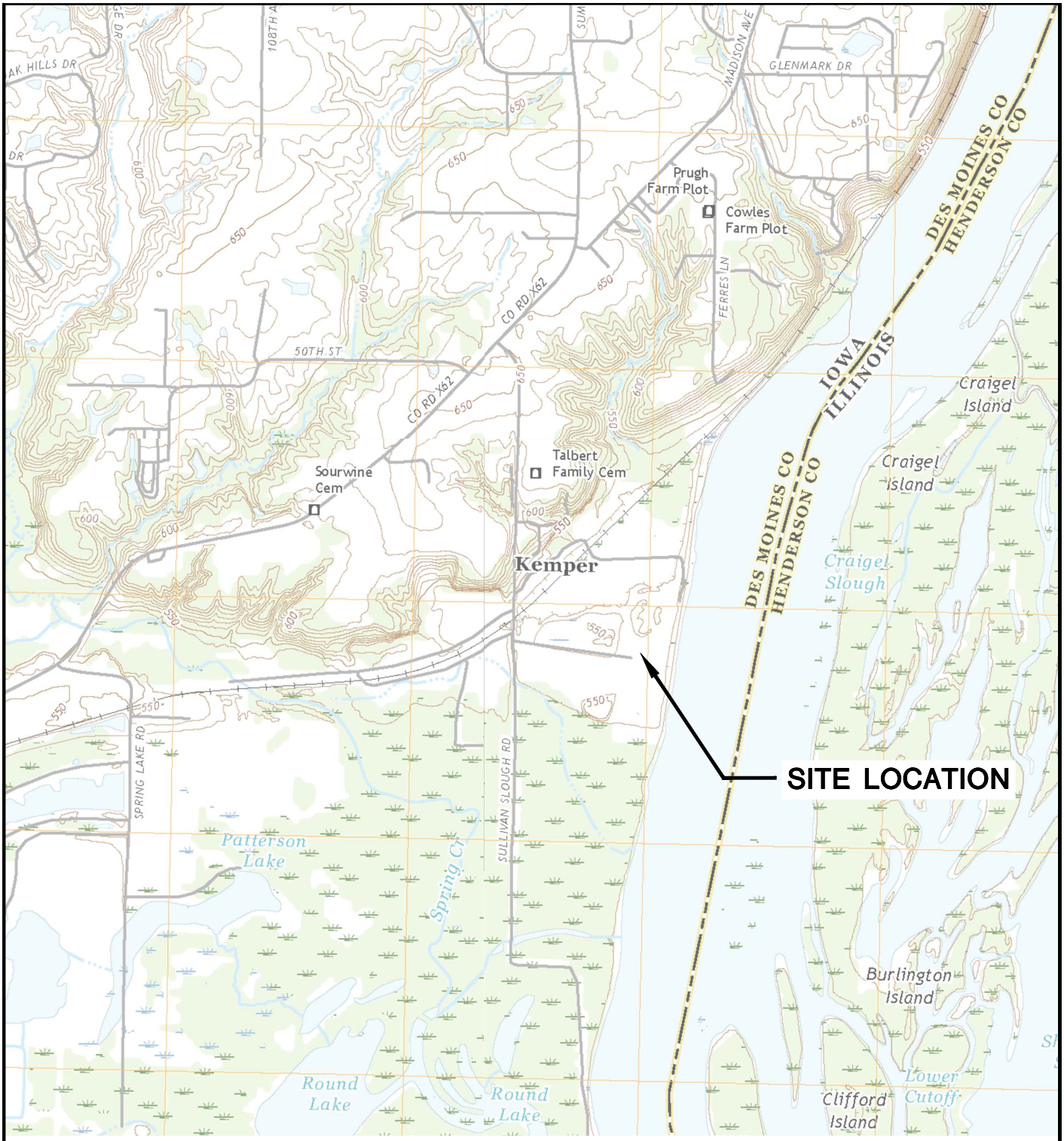
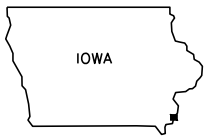
Figures



N

LOMAX QUADRANGLE
ILLINOIS / IOWA–DES MOINES CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'



CLIENT	ALLIANT ENERGY 4902 N. BILTMORE LANE, #1000 MADISON, WI 53718	SITE	ALLIANT ENERGY BURLINGTON GENERATING STATION BURLINGTON, IOWA

SITE LOCATION MAP

PROJECT NO.	25219066.00	DRAWN BY:	BSS
DRAWN:	11/14/2019	CHECKED BY:	MDB
REVISED:	01/14/2020	APPROVED BY:	TK 01/30/2020

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

FIGURE
1

LEGEND

- EXISTING CCR RULE MONITORING WELL
- CCR UNITS

NOTES:

1. MONITORING WELLS MW-303 THROUGH MW-308 WERE INSTALLED BY CASCADE DRILLING, LLP. UNDER THE SUPERVISION OF SCS ENGINEERS ON DECEMBER 15-17, 2015.
2. MONITORING WELLS MW-301, MW-302, AND MW-309 THROUGH MW-311 WERE INSTALLED BY DIRECT PUSH ANALYTICAL SERVICES CORP. UNDER THE SUPERVISION OF SCS ENGINEERS FROM FEBRUARY 29, 2016 TO MARCH 1, 2016.
3. MONITORING WELLS MW-312 AND MW-313 WERE INSTALLED BY ROBERTS ENVIRONMENTAL DRILLING IN MAY 2019.
4. 2018 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.

N

300 0 300

SCALE: 1" = 300'

PROJECT NO.	25219066.00	DRAWN BY:	BSS
DRAWN:	11/14/2019	CHECKED BY:	MDB
REVISED:	01/20/2020	APPROVED BY:	TK 01/30/2020

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: ALLIANT ENERGY
4902 N. BILTMORE LANE, #1000
MADISON, WI 53718

SITE: ALLIANT ENERGY
BURLINGTON GENERATING STATION
BURLINGTON, IOWA

SITE PLAN AND MONITORING WELL LOCATIONS

FIGURE 2

I:\25219066.00\Drawings\CCR 2019 Annual Report\Site Plan and Monitoring Well Locations.dwg, 1/30/2020 3:35:59 PM

Appendix A

Analytical Laboratory Reports

A1 Assessment Monitoring, April 2019

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-152684-1
Laboratory Sample Delivery Group: 25216066
Client Project/Site: Burlington - 25216066
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandie Fredrick

Authorized for release by:
7/11/2019 9:16:11 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Job ID: 310-152684-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-152684-1

Comments
REVISION: Client requested split reports

Receipt
The samples were received on 4/4/2019 6:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.7º C, 3.8º C and 4.2º C.

HPLC/IC
Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: MW 302 (310-152684-2), MW 303 (310-152684-3), MW 304 (310-152684-4), MW 306 (310-152684-6), MW 308 (310-152684-8) and MW 311 (310-152684-11). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-152684-1	MW 301	Ground Water	04/03/19 14:20	04/04/19 18:00	
310-152684-2	MW 302	Ground Water	04/03/19 15:22	04/04/19 18:00	
310-152684-3	MW 303	Ground Water	04/03/19 16:02	04/04/19 18:00	
310-152684-4	MW 304	Ground Water	04/03/19 17:00	04/04/19 18:00	
310-152684-5	MW 305	Ground Water	04/03/19 13:16	04/04/19 18:00	
310-152684-6	MW 306	Ground Water	04/03/19 11:22	04/04/19 18:00	
310-152684-7	MW 307	Ground Water	04/03/19 12:05	04/04/19 18:00	
310-152684-8	MW 308	Ground Water	04/03/19 10:33	04/04/19 18:00	
310-152684-9	MW 309	Ground Water	04/04/19 10:33	04/04/19 18:00	
310-152684-10	MW 310	Ground Water	04/04/19 08:50	04/04/19 18:00	
310-152684-11	MW 311	Ground Water	04/04/19 09:34	04/04/19 18:00	
310-152684-12	Field Blank	Ground Water	04/03/19 13:25	04/04/19 18:00	

Detection Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 301 — Lab Sample ID: 310-152684-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.77		0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	190		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	42		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	380		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	12000		2000	1100	ug/L	10		6020A	Total/NA
Calcium	150		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.44	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	13		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	77		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	890		30	24	mg/L	1		SM 2540C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	1213				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	0.59				mg/L	1		Field Sampling	Total/NA
Field pH	7.53				SU	1		Field Sampling	Total/NA
Field Temperature	12.35				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	21.10				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.15				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-144.7				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 302 — Lab Sample ID: 310-152684-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.37	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	510		20	7.0	mg/L	20		9056A	Total/NA
Arsenic	53		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	320		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	12000		2000	1100	ug/L	10		6020A	Total/NA
Calcium	220		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.19	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.58		0.50	0.27	ug/L	1		6020A	Total/NA
Lithium	56		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	100		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	1000		30	24	mg/L	1		SM 2540C	Total/NA
pH	8.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	1164				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	0.58				mg/L	1		Field Sampling	Total/NA
Field pH	8.70				SU	1		Field Sampling	Total/NA
Field Temperature	11.41				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	18.80				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.21				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-215.8				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 303 — Lab Sample ID: 310-152684-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.43	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	120		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	6.4		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	440		2.0	0.84	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 303 (Continued) — Lab Sample ID: 310-152684-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	22000		2000	1100	ug/L	10		6020A	Total/NA
Calcium	86		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.36	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.49	J	0.50	0.27	ug/L	1		6020A	Total/NA
Lithium	52		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	110		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	540		30	24	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	711				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	0.67				mg/L	1		Field Sampling	Total/NA
Field pH	7.79				SU	1		Field Sampling	Total/NA
Field Temperature	12.63				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	18.20				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.22				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-122.8				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 304 — Lab Sample ID: 310-152684-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	39		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.35	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	140		5.0	1.8	mg/L	5		9056A	Total/NA
Antimony	0.66	J	1.0	0.53	ug/L	1		6020A	Total/NA
Arsenic	59		20	7.5	ug/L	10		6020A	Total/NA
Barium	90		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	6300		2000	1100	ug/L	10		6020A	Total/NA
Calcium	72		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.11	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	52		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	58		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	460		30	24	mg/L	1		SM 2540C	Total/NA
pH	8.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	658				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	0.39				mg/L	1		Field Sampling	Total/NA
Field pH	8.56				SU	1		Field Sampling	Total/NA
Field Temperature	12.96				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	6.22				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.27				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-216.7				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 305 — Lab Sample ID: 310-152684-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	33		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.75		0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	10		5.0	1.8	mg/L	5		9056A	Total/NA
Barium	160		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	2000		200	110	ug/L	1		6020A	Total/NA
Calcium	83		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.16	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	29		10	2.7	ug/L	1		6020A	Total/NA
Total Dissolved Solids	470		30	24	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 305 (Continued) — Lab Sample ID: 310-152684-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	733				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	0.59				mg/L	1		Field Sampling	Total/NA
Field pH	7.80				SU	1		Field Sampling	Total/NA
Field Temperature	14.47				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	3.88				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.36				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-133.5				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 306 — Lab Sample ID: 310-152684-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.36	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	110		5.0	1.8	mg/L	5		9056A	Total/NA
Antimony	1.1		1.0	0.53	ug/L	1		6020A	Total/NA
Arsenic	50		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	14		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	2900		200	110	ug/L	1		6020A	Total/NA
Calcium	37		0.50	0.10	mg/L	1		6020A	Total/NA
Lithium	45		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	78		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	320		30	24	mg/L	1		SM 2540C	Total/NA
pH	6.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	4711				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	0.69				mg/L	1		Field Sampling	Total/NA
Field pH	6.69				SU	1		Field Sampling	Total/NA
Field Temperature	13.44				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.81				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.40				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-92.8				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 307 — Lab Sample ID: 310-152684-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.51		0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	120		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	43		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	29		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	3400		200	110	ug/L	1		6020A	Total/NA
Calcium	29		0.50	0.10	mg/L	1		6020A	Total/NA
Lead	0.37	J	0.50	0.27	ug/L	1		6020A	Total/NA
Lithium	50		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	100		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	420		30	24	mg/L	1		SM 2540C	Total/NA
pH	10.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	500				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	0.68				mg/L	1		Field Sampling	Total/NA
Field pH	10.39				SU	1		Field Sampling	Total/NA
Field Temperature	13.56				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	3.10				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW 307 (Continued) — Lab Sample ID: 310-152684-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Groundwater Elevation (ft MSL)	528.63				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-167.8				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 308 — Lab Sample ID: 310-152684-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	38		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.37	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	170		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	78		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	70		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	4300		400	220	ug/L	2		6020A	Total/NA
Calcium	32		0.50	0.10	mg/L	1		6020A	Total/NA
Lithium	50		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	110		4.0	2.2	ug/L	2		6020A	Total/NA
Total Dissolved Solids	490		30	24	mg/L	1		SM 2540C	Total/NA
pH	9.6	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	681				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	1.16				mg/L	1		Field Sampling	Total/NA
Field pH	9.97				SU	1		Field Sampling	Total/NA
Field Temperature	14.04				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	1.66				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.39				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-142.3				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 309 — Lab Sample ID: 310-152684-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	100		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.71		0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	78		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	30		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	130		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	4200		400	220	ug/L	2		6020A	Total/NA
Calcium	73		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	1.3		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	3.3	J	10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	47		4.0	2.2	ug/L	2		6020A	Total/NA
Total Dissolved Solids	650		30	24	mg/L	1		SM 2540C	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	997				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	0.51				mg/L	1		Field Sampling	Total/NA
Field pH	7.45				SU	1		Field Sampling	Total/NA
Field Temperature	12.60				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	20.1				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.40				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-99.4				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 310 — Lab Sample ID: 310-152684-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	88		5.0	1.5	mg/L	5		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW 310 (Continued) — Lab Sample ID: 310-152684-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.55		0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	21		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	65		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	560		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	560		200	110	ug/L	1		6020A	Total/NA
Calcium	120		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	1.9		0.50	0.091	ug/L	1		6020A	Total/NA
Molybdenum	5.2		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	600		30	24	mg/L	1		SM 2540C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	1034				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	1.12				mg/L	1		Field Sampling	Total/NA
Field pH	7.84				SU	1		Field Sampling	Total/NA
Field Temperature	10.8				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	16.70				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.62				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-175.8				millivolts	1		Field Sampling	Total/NA

Client Sample ID: MW 311 — Lab Sample ID: 310-152684-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	110		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.41	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	230		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	19		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	280		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	1800		200	110	ug/L	1		6020A	Total/NA
Calcium	200		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.45	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.37	J	0.50	0.27	ug/L	1		6020A	Total/NA
Molybdenum	8.5		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	980		30	24	mg/L	1		SM 2540C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Field Conductivity	1422				umhos/cm	1		Field Sampling	Total/NA
Field Dissolved Oxygen	0.78				mg/L	1		Field Sampling	Total/NA
Field pH	7.64				SU	1		Field Sampling	Total/NA
Field Temperature	11.41				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	10.80				NTU	1		Field Sampling	Total/NA
Groundwater Elevation (ft MSL)	528.20				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	145.8				millivolts	1		Field Sampling	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 310-152684-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.062	J	0.10	0.045	mg/L	1		9056A	Total/NA
Boron	140	J	200	110	ug/L	1		6020A	Total/NA
Total Dissolved Solids	48		30	24	mg/L	1		SM 2540C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW 301

Date Collected: 04/03/19 14:20
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-1

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21**		5.0	1.5	mg/L			04/08/19 20:30	5
Fluoride	**0.77**		0.50	0.23	mg/L			04/08/19 20:30	5
Sulfate	**190**		5.0	1.8	mg/L			04/08/19 20:30	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 18:41	1
Arsenic	**42**		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 18:41	1
Barium	**380**		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 18:41	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:41	1
Boron	**12000**		2000	1100	ug/L		04/08/19 08:00	04/18/19 20:33	10
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 18:41	1
Calcium	**150**		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 18:41	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 18:41	1
Cobalt	**0.44**	**J**	0.50	0.091	ug/L		04/08/19 08:00	04/18/19 18:41	1
Lead	<0.27		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 18:41	1
Lithium	**13**		10	2.7	ug/L		04/08/19 08:00	04/18/19 18:41	1
Molybdenum	**77**		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 16:11	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 18:41	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**890**		30	24	mg/L			04/08/19 11:48	1
pH	**7.0**	**HF**	0.1	0.1	SU			04/05/19 00:33	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	**1213**				umhos/cm			04/03/19 14:20	1
Field Dissolved Oxygen	**0.59**				mg/L			04/03/19 14:20	1
Field pH	**7.53**				SU			04/03/19 14:20	1
Field Temperature	**12.35**				Degrees C			04/03/19 14:20	1
Field Turbidity	**21.10**				NTU			04/03/19 14:20	1
Groundwater Elevation (ft MSL)	**528.15**				ft			04/03/19 14:20	1
Oxidation Reduction Potential	**-144.7**				millivolts			04/03/19 14:20	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 302

Date Collected: 04/03/19 15:22
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-2

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		5.0	1.5	mg/L			04/08/19 20:43	5
Fluoride	0.37	J	0.50	0.23	mg/L			04/08/19 20:43	5
Sulfate	510		20	7.0	mg/L			04/09/19 08:59	20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 18:51	1
Arsenic	53		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 18:51	1
Barium	320		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 18:51	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:51	1
Boron	12000		2000	1100	ug/L		04/08/19 08:00	04/18/19 20:43	10
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 18:51	1
Calcium	220		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 18:51	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 18:51	1
Cobalt	0.19	J	0.50	0.091	ug/L		04/08/19 08:00	04/18/19 18:51	1
Lead	0.58		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 18:51	1
Lithium	56		10	2.7	ug/L		04/08/19 08:00	04/18/19 18:51	1
Molybdenum	100		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 16:21	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 18:51	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		30	24	mg/L			04/08/19 11:48	1
pH	8.1	HF	0.1	0.1	SU			04/05/19 00:36	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	1164				umhos/cm			04/03/19 15:22	1
Field Dissolved Oxygen	0.58				mg/L			04/03/19 15:22	1
Field pH	8.70				SU			04/03/19 15:22	1
Field Temperature	11.41				Degrees C			04/03/19 15:22	1
Field Turbidity	18.80				NTU			04/03/19 15:22	1
Groundwater Elevation (ft MSL)	528.21				ft			04/03/19 15:22	1
Oxidation Reduction Potential	-215.8				millivolts			04/03/19 15:22	1

Client Sample ID: MW 303

Date Collected: 04/03/19 16:02
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-3

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	1.5	mg/L			04/08/19 20:57	5
Fluoride	0.43	J	0.50	0.23	mg/L			04/08/19 20:57	5
Sulfate	120		5.0	1.8	mg/L			04/08/19 20:57	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 18:54	1
Arsenic	6.4		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 18:54	1
Barium	440		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 18:54	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:54	1
Boron	22000		2000	1100	ug/L		04/08/19 08:00	04/18/19 20:47	10
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 18:54	1
Calcium	86		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 18:54	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 18:54	1
Cobalt	0.36	J	0.50	0.091	ug/L		04/08/19 08:00	04/18/19 18:54	1
Lead	0.49	J	0.50	0.27	ug/L		04/08/19 08:00	04/18/19 18:54	1
Lithium	52		10	2.7	ug/L		04/08/19 08:00	04/18/19 18:54	1
Molybdenum	110		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 16:24	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 18:54	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	540		30	24	mg/L			04/08/19 11:48	1
pH	7.4	HF	0.1	0.1	SU			04/05/19 00:38	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	711				umhos/cm			04/03/19 16:02	1
Field Dissolved Oxygen	0.67				mg/L			04/03/19 16:02	1
Field pH	7.79				SU			04/03/19 16:02	1
Field Temperature	12.63				Degrees C			04/03/19 16:02	1
Field Turbidity	18.20				NTU			04/03/19 16:02	1
Groundwater Elevation (ft MSL)	528.22				ft			04/03/19 16:02	1
Oxidation Reduction Potential	-122.8				millivolts			04/03/19 16:02	1

Client Sample ID: MW 304

Date Collected: 04/03/19 17:00
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-4

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	39		5.0	1.5	mg/L			04/08/19 21:24	5
Fluoride	0.35	J	0.50	0.23	mg/L			04/08/19 21:24	5
Sulfate	140		5.0	1.8	mg/L			04/08/19 21:24	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.66	J	1.0	0.53	ug/L		04/08/19 08:00	04/18/19 18:58	1
Arsenic	59		20	7.5	ug/L		04/08/19 08:00	04/18/19 20:50	10
Barium	90		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 18:58	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:58	1
Boron	6300		2000	1100	ug/L		04/08/19 08:00	04/18/19 20:50	10
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 18:58	1
Calcium	72		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 18:58	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 18:58	1
Cobalt	0.11	J	0.50	0.091	ug/L		04/08/19 08:00	04/18/19 18:58	1
Lead	<0.27		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 18:58	1
Lithium	52		10	2.7	ug/L		04/08/19 08:00	04/18/19 18:58	1
Molybdenum	58		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 16:27	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 18:58	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	460		30	24	mg/L			04/08/19 11:48	1
pH	8.0	HF	0.1	0.1	SU			04/05/19 00:40	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	658				umhos/cm			04/03/19 17:00	1
Field Dissolved Oxygen	0.39				mg/L			04/03/19 17:00	1
Field pH	8.56				SU			04/03/19 17:00	1
Field Temperature	12.96				Degrees C			04/03/19 17:00	1
Field Turbidity	6.22				NTU			04/03/19 17:00	1
Groundwater Elevation (ft MSL)	528.27				ft			04/03/19 17:00	1
Oxidation Reduction Potential	-216.7				millivolts			04/03/19 17:00	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 305

Date Collected: 04/03/19 13:16
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-5

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33**		5.0	1.5	mg/L			04/08/19 21:51	5
Fluoride	**0.75**		0.50	0.23	mg/L			04/08/19 21:51	5
Sulfate	**10**		5.0	1.8	mg/L			04/08/19 21:51	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 19:11	1
Arsenic	<0.75		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 19:11	1
Barium	**160**		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 19:11	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:11	1
Boron	**2000**		200	110	ug/L		04/08/19 08:00	04/19/19 16:31	1
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 19:11	1
Calcium	**83**		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 19:11	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 19:11	1
Cobalt	**0.16**	**J**	0.50	0.091	ug/L		04/08/19 08:00	04/18/19 19:11	1
Lead	<0.27		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 19:11	1
Lithium	**29**		10	2.7	ug/L		04/08/19 08:00	04/18/19 19:11	1
Molybdenum	<1.1		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 16:31	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 19:11	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**470**		30	24	mg/L			04/08/19 11:48	1
pH	**7.4**	**HF**	0.1	0.1	SU			04/05/19 00:46	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	**733**				umhos/cm			04/03/19 13:16	1
Field Dissolved Oxygen	**0.59**				mg/L			04/03/19 13:16	1
Field pH	**7.80**				SU			04/03/19 13:16	1
Field Temperature	**14.47**				Degrees C			04/03/19 13:16	1
Field Turbidity	**3.88**				NTU			04/03/19 13:16	1
Groundwater Elevation (ft MSL)	**528.36**				ft			04/03/19 13:16	1
Oxidation Reduction Potential	**-133.5**				millivolts			04/03/19 13:16	1

Client Sample ID: MW 306

Date Collected: 04/03/19 11:22
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-6

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21**		5.0	1.5	mg/L			04/08/19 22:18	5
Fluoride	**0.36**	**J**	0.50	0.23	mg/L			04/08/19 22:18	5
Sulfate	**110**		5.0	1.8	mg/L			04/08/19 22:18	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.1**		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 19:14	1
Arsenic	**50**		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 19:14	1
Barium	**14**		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 19:14	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:14	1
Boron	**2900**		200	110	ug/L		04/08/19 08:00	04/19/19 16:44	1
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 19:14	1
Calcium	**37**		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 19:14	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 19:14	1
Cobalt	<0.091		0.50	0.091	ug/L		04/08/19 08:00	04/18/19 19:14	1
Lead	<0.27		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 19:14	1
Lithium	**45**		10	2.7	ug/L		04/08/19 08:00	04/18/19 19:14	1
Molybdenum	**78**		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 16:44	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 19:14	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:14	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**320**		30	24	mg/L			04/09/19 10:18	1
pH	**6.0**	**HF**	0.1	0.1	SU			04/05/19 00:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	**4711**				umhos/cm			04/03/19 11:22	1
Field Dissolved Oxygen	**0.69**				mg/L			04/03/19 11:22	1
Field pH	**6.69**				SU			04/03/19 11:22	1
Field Temperature	**13.44**				Degrees C			04/03/19 11:22	1
Field Turbidity	**0.81**				NTU			04/03/19 11:22	1
Groundwater Elevation (ft MSL)	**528.40**				ft			04/03/19 11:22	1
Oxidation Reduction Potential	**-92.8**				millivolts			04/03/19 11:22	1

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 307

Date Collected: 04/03/19 12:05
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-7

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21**		5.0	1.5	mg/L			04/08/19 23:13	5
Fluoride	**0.51**		0.50	0.23	mg/L			04/08/19 23:13	5
Sulfate	**120**		5.0	1.8	mg/L			04/08/19 23:13	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 19:17	1
Arsenic	**43**		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 19:17	1
Barium	**29**		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 19:17	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:17	1
Boron	**3400**		200	110	ug/L		04/08/19 08:00	04/19/19 16:47	1
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 19:17	1
Calcium	**29**		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 19:17	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 19:17	1
Cobalt	<0.091		0.50	0.091	ug/L		04/08/19 08:00	04/18/19 19:17	1
Lead	**0.37**	**J**	0.50	0.27	ug/L		04/08/19 08:00	04/18/19 19:17	1
Lithium	**50**		10	2.7	ug/L		04/08/19 08:00	04/18/19 19:17	1
Molybdenum	**100**		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 16:47	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 19:17	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**420**		30	24	mg/L			04/09/19 10:18	1
pH	**10.0**	**HF**	0.1	0.1	SU			04/05/19 00:51	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	**500**				umhos/cm			04/03/19 12:05	1
Field Dissolved Oxygen	**0.68**				mg/L			04/03/19 12:05	1
Field pH	**10.39**				SU			04/03/19 12:05	1
Field Temperature	**13.56**				Degrees C			04/03/19 12:05	1
Field Turbidity	**3.10**				NTU			04/03/19 12:05	1
Groundwater Elevation (ft MSL)	**528.63**				ft			04/03/19 12:05	1
Oxidation Reduction Potential	**-167.8**				millivolts			04/03/19 12:05	1

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 308

Date Collected: 04/03/19 10:33
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-8

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**38**		5.0	1.5	mg/L			04/08/19 23:26	5
Fluoride	**0.37**	**J**	0.50	0.23	mg/L			04/08/19 23:26	5
Sulfate	**170**		5.0	1.8	mg/L			04/08/19 23:26	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 19:47	1
Arsenic	**78**		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 19:47	1
Barium	**70**		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 19:47	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:47	1
Boron	**4300**		400	220	ug/L		04/08/19 08:00	04/19/19 16:51	2
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 19:47	1
Calcium	**32**		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 19:47	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 19:47	1
Cobalt	<0.091		0.50	0.091	ug/L		04/08/19 08:00	04/18/19 19:47	1
Lead	<0.27		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 19:47	1
Lithium	**50**		10	2.7	ug/L		04/08/19 08:00	04/18/19 19:47	1
Molybdenum	**110**		4.0	2.2	ug/L		04/08/19 08:00	04/19/19 16:51	2
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 19:47	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:47	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**490**		30	24	mg/L			04/09/19 10:18	1
pH	**9.6**	**HF**	0.1	0.1	SU			04/05/19 00:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	**681**				umhos/cm			04/03/19 10:33	1
Field Dissolved Oxygen	**1.16**				mg/L			04/03/19 10:33	1
Field pH	**9.97**				SU			04/03/19 10:33	1
Field Temperature	**14.04**				Degrees C			04/03/19 10:33	1
Field Turbidity	**1.66**				NTU			04/03/19 10:33	1
Groundwater Elevation (ft MSL)	**528.39**				ft			04/03/19 10:33	1
Oxidation Reduction Potential	**-142.3**				millivolts			04/03/19 10:33	1

Client Sample ID: MW 309

Date Collected: 04/04/19 10:33
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-9

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		5.0	1.5	mg/L			04/08/19 23:40	5
Fluoride	**0.71**		0.50	0.23	mg/L			04/08/19 23:40	5
Sulfate	**78**		5.0	1.8	mg/L			04/08/19 23:40	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 19:51	1
Arsenic	**30**		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 19:51	1
Barium	**130**		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 19:51	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:51	1
Boron	**4200**		400	220	ug/L		04/08/19 08:00	04/19/19 16:54	2
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 19:51	1
Calcium	**73**		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 19:51	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 19:51	1
Cobalt	**1.3**		0.50	0.091	ug/L		04/08/19 08:00	04/18/19 19:51	1
Lead	<0.27		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 19:51	1
Lithium	**3.3**	**J**	10	2.7	ug/L		04/08/19 08:00	04/18/19 19:51	1
Molybdenum	**47**		4.0	2.2	ug/L		04/08/19 08:00	04/19/19 16:54	2
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 19:51	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**650**		30	24	mg/L			04/09/19 10:18	1
pH	**7.1**	**HF**	0.1	0.1	SU			04/05/19 00:55	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	**997**				umhos/cm			04/04/19 10:33	1
Field Dissolved Oxygen	**0.51**				mg/L			04/04/19 10:33	1
Field pH	**7.45**				SU			04/04/19 10:33	1
Field Temperature	**12.60**				Degrees C			04/04/19 10:33	1
Field Turbidity	**20.1**				NTU			04/04/19 10:33	1
Groundwater Elevation (ft MSL)	**528.40**				ft			04/04/19 10:33	1
Oxidation Reduction Potential	**-99.4**				millivolts			04/04/19 10:33	1

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 310

Date Collected: 04/04/19 08:50
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-10

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**88**		5.0	1.5	mg/L			04/08/19 23:54	5
Fluoride	**0.55**		0.50	0.23	mg/L			04/08/19 23:54	5
Sulfate	**21**		5.0	1.8	mg/L			04/08/19 23:54	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 19:54	1
Arsenic	**65**		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 19:54	1
Barium	**560**		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 19:54	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:54	1
Boron	**560**		200	110	ug/L		04/08/19 08:00	04/19/19 16:57	1
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 19:54	1
Calcium	**120**		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 19:54	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 19:54	1
Cobalt	**1.9**		0.50	0.091	ug/L		04/08/19 08:00	04/18/19 19:54	1
Lead	<0.27		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 19:54	1
Lithium	<2.7		10	2.7	ug/L		04/08/19 08:00	04/18/19 19:54	1
Molybdenum	**5.2**		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 16:57	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 19:54	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**600**		30	24	mg/L			04/09/19 10:18	1
pH	**7.0**	**HF**	0.1	0.1	SU			04/05/19 00:57	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	**1034**				umhos/cm			04/04/19 08:50	1
Field Dissolved Oxygen	**1.12**				mg/L			04/04/19 08:50	1
Field pH	**7.84**				SU			04/04/19 08:50	1
Field Temperature	**10.8**				Degrees C			04/04/19 08:50	1
Field Turbidity	**16.70**				NTU			04/04/19 08:50	1
Groundwater Elevation (ft MSL)	**528.62**				ft			04/04/19 08:50	1
Oxidation Reduction Potential	**-175.8**				millivolts			04/04/19 08:50	1

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 311

Date Collected: 04/04/19 09:34
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-11

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		5.0	1.5	mg/L			04/09/19 00:07	5
Fluoride	0.41	J	0.50	0.23	mg/L			04/09/19 00:07	5
Sulfate	230		5.0	1.8	mg/L			04/09/19 00:07	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 19:57	1
Arsenic	19		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 19:57	1
Barium	280		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 19:57	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:57	1
Boron	1800		200	110	ug/L		04/08/19 08:00	04/19/19 17:01	1
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 19:57	1
Calcium	200		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 19:57	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 19:57	1
Cobalt	0.45	J	0.50	0.091	ug/L		04/08/19 08:00	04/18/19 19:57	1
Lead	0.37	J	0.50	0.27	ug/L		04/08/19 08:00	04/18/19 19:57	1
Lithium	<2.7		10	2.7	ug/L		04/08/19 08:00	04/18/19 19:57	1
Molybdenum	8.5		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 17:01	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 19:57	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 19:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	980		30	24	mg/L			04/09/19 10:18	1
pH	7.0	HF	0.1	0.1	SU			04/05/19 00:59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field Conductivity	1422				umhos/cm			04/04/19 09:34	1
Field Dissolved Oxygen	0.78				mg/L			04/04/19 09:34	1
Field pH	7.64				SU			04/04/19 09:34	1
Field Temperature	11.41				Degrees C			04/04/19 09:34	1
Field Turbidity	10.80				NTU			04/04/19 09:34	1
Groundwater Elevation (ft MSL)	528.20				ft			04/04/19 09:34	1
Oxidation Reduction Potential	145.8				millivolts			04/04/19 09:34	1

Client Sample ID: Field Blank

Date Collected: 04/03/19 13:25
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-12

Matrix: Ground Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.29		1.0	0.29	mg/L			04/09/19 00:21	1
Fluoride	**0.062**	**J**	0.10	0.045	mg/L			04/09/19 00:21	1
Sulfate	<0.35		1.0	0.35	mg/L			04/09/19 00:21	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 20:04	1
Arsenic	<0.75		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 20:04	1
Barium	<0.84		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 20:04	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 20:04	1
Boron	**140**	**J**	200	110	ug/L		04/08/19 08:00	04/19/19 17:07	1
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 20:04	1
Calcium	<0.10		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 20:04	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 20:04	1
Cobalt	<0.091		0.50	0.091	ug/L		04/08/19 08:00	04/18/19 20:04	1
Lead	<0.27		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 20:04	1
Lithium	<2.7		10	2.7	ug/L		04/08/19 08:00	04/18/19 20:04	1
Molybdenum	<1.1		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 17:07	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 20:04	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 20:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**48**		30	24	mg/L			04/09/19 10:18	1
pH	**7.0**	**HF**	0.1	0.1	SU			04/05/19 01:06	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-235211/3
Matrix: Water
Analysis Batch: 235211

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.29		1.0	0.29	mg/L			04/08/19 17:19	1
Fluoride	<0.045		0.10	0.045	mg/L			04/08/19 17:19	1
Sulfate	<0.35		1.0	0.35	mg/L			04/08/19 17:19	1

Lab Sample ID: LCS 310-235211/4
Matrix: Water
Analysis Batch: 235211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	7.50	7.43		mg/L		99	90 - 110
Fluoride	1.50	1.50		mg/L		100	90 - 110
Sulfate	7.50	7.62		mg/L		102	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-234948/1-A
Matrix: Water
Analysis Batch: 236393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 234948

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		04/08/19 08:00	04/18/19 18:35	1
Arsenic	<0.75		2.0	0.75	ug/L		04/08/19 08:00	04/18/19 18:35	1
Barium	<0.84		2.0	0.84	ug/L		04/08/19 08:00	04/18/19 18:35	1
Beryllium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:35	1
Cadmium	<0.077		0.50	0.077	ug/L		04/08/19 08:00	04/18/19 18:35	1
Calcium	<0.10		0.50	0.10	mg/L		04/08/19 08:00	04/18/19 18:35	1
Chromium	<0.98		5.0	0.98	ug/L		04/08/19 08:00	04/18/19 18:35	1
Cobalt	<0.091		0.50	0.091	ug/L		04/08/19 08:00	04/18/19 18:35	1
Lead	<0.27		0.50	0.27	ug/L		04/08/19 08:00	04/18/19 18:35	1
Lithium	<2.7		10	2.7	ug/L		04/08/19 08:00	04/18/19 18:35	1
Selenium	<1.0		5.0	1.0	ug/L		04/08/19 08:00	04/18/19 18:35	1
Thallium	<0.27		1.0	0.27	ug/L		04/08/19 08:00	04/18/19 18:35	1

Lab Sample ID: MB 310-234948/1-A
Matrix: Water
Analysis Batch: 236650

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 234948

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<110		200	110	ug/L		04/08/19 08:00	04/19/19 16:04	1
Molybdenum	<1.1		2.0	1.1	ug/L		04/08/19 08:00	04/19/19 16:04	1

Lab Sample ID: LCS 310-234948/2-A
Matrix: Water
Analysis Batch: 236393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	19.6		ug/L		98	80 - 120
Arsenic	40.0	43.8		ug/L		109	80 - 120
Barium	40.0	40.2		ug/L		100	80 - 120
Beryllium	20.0	20.2		ug/L		101	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 310-234948/2-A
Matrix: Water
Analysis Batch: 236393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	20.0	20.2		ug/L		101	80 - 120
Calcium	2.00	1.92		mg/L		96	80 - 120
Chromium	40.0	39.5		ug/L		99	80 - 120
Cobalt	20.0	19.3		ug/L		96	80 - 120
Lead	20.0	20.5		ug/L		103	80 - 120
Lithium	100	104		ug/L		104	80 - 120
Selenium	40.0	37.8		ug/L		94	80 - 120
Thallium	16.0	16.2		ug/L		101	80 - 120

Lab Sample ID: LCS 310-234948/2-A
Matrix: Water
Analysis Batch: 236650

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	880	797		ug/L		91	80 - 120
Molybdenum	40.0	39.4		ug/L		99	80 - 120

Lab Sample ID: 310-152684-1 MS
Matrix: Ground Water
Analysis Batch: 236393

Client Sample ID: MW 301
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.53		20.0	20.1		ug/L		101	75 - 125
Arsenic	42		40.0	85.7		ug/L		109	75 - 125
Barium	380		40.0	429	4	ug/L		113	75 - 125
Beryllium	<0.27		20.0	19.9		ug/L		99	75 - 125
Cadmium	<0.077		20.0	19.7		ug/L		99	75 - 125
Calcium	150		2.00	159	4	mg/L		196	75 - 125
Chromium	<0.98		40.0	37.6		ug/L		94	75 - 125
Cobalt	0.44	J	20.0	19.1		ug/L		93	75 - 125
Lead	<0.27		20.0	19.3		ug/L		96	75 - 125
Lithium	13		100	116		ug/L		104	75 - 125
Selenium	<1.0		40.0	38.8		ug/L		97	75 - 125
Thallium	<0.27		16.0	14.8		ug/L		92	75 - 125

Lab Sample ID: 310-152684-1 MS
Matrix: Ground Water
Analysis Batch: 236393

Client Sample ID: MW 301
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	12000		880	13100	4	ug/L		124	75 - 125

Lab Sample ID: 310-152684-1 MS
Matrix: Ground Water
Analysis Batch: 236650

Client Sample ID: MW 301
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	77		40.0	119		ug/L		105	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 310-152684-1 MSD
Matrix: Ground Water
Analysis Batch: 236393

Client Sample ID: MW 301
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.53		20.0	20.3		ug/L		102	75 - 125	1	20
Arsenic	42		40.0	85.9		ug/L		109	75 - 125	0	20
Barium	380		40.0	426	4	ug/L		106	75 - 125	1	20
Beryllium	<0.27		20.0	20.2		ug/L		101	75 - 125	2	20
Cadmium	<0.077		20.0	20.0		ug/L		100	75 - 125	1	20
Calcium	150		2.00	161	4	mg/L		288	75 - 125	1	20
Chromium	<0.98		40.0	37.8		ug/L		94	75 - 125	1	20
Cobalt	0.44	J	20.0	19.4		ug/L		95	75 - 125	1	20
Lead	<0.27		20.0	19.3		ug/L		96	75 - 125	0	20
Lithium	13		100	115		ug/L		102	75 - 125	1	20
Selenium	<1.0		40.0	39.8		ug/L		100	75 - 125	3	20
Thallium	<0.27		16.0	14.7		ug/L		92	75 - 125	0	20

Lab Sample ID: 310-152684-1 MSD
Matrix: Ground Water
Analysis Batch: 236393

Client Sample ID: MW 301
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	12000		880	13500	4	ug/L		172	75 - 125	3	20

Lab Sample ID: 310-152684-1 MSD
Matrix: Ground Water
Analysis Batch: 236650

Client Sample ID: MW 301
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	77		40.0	117		ug/L		99	75 - 125	2	20

Lab Sample ID: 310-152684-11 DU
Matrix: Ground Water
Analysis Batch: 236393

Client Sample ID: MW 311
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.53		<0.53		ug/L		NC	20
Arsenic	19		18.5		ug/L		1	20
Barium	280		285		ug/L		0.3	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Cadmium	<0.077		<0.077		ug/L		NC	20
Calcium	200		197		mg/L		0.8	20
Chromium	<0.98		<0.98		ug/L		NC	20
Cobalt	0.45	J	0.445	J	ug/L		2	20
Lead	0.37	J	0.397	J	ug/L		7	20
Lithium	<2.7		<2.7		ug/L		NC	20
Selenium	<1.0		<1.0		ug/L		NC	20
Thallium	<0.27		<0.27		ug/L		NC	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 310-152684-11 DU
Matrix: Ground Water
Analysis Batch: 236650

Client Sample ID: MW 311
Prep Type: Total/NA
Prep Batch: 234948

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	1800		1810		ug/L		0.8	20
Molybdenum	8.5		8.51		ug/L		0.09	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-235138/1-A
Matrix: Water
Analysis Batch: 235380

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 235138

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		04/09/19 09:47	04/10/19 13:00	1

Lab Sample ID: LCS 310-235138/2-A
Matrix: Water
Analysis Batch: 235380

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 235138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.73		ug/L		104	80 - 120

Lab Sample ID: 310-152684-2 MS
Matrix: Ground Water
Analysis Batch: 235380

Client Sample ID: MW 302
Prep Type: Total/NA
Prep Batch: 235138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.10		1.67	1.75		ug/L		105	80 - 120

Lab Sample ID: 310-152684-2 MSD
Matrix: Ground Water
Analysis Batch: 235380

Client Sample ID: MW 302
Prep Type: Total/NA
Prep Batch: 235138

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.10		1.67	1.75		ug/L		105	80 - 120	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 310-234998/1
Matrix: Water
Analysis Batch: 234998

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<30.0		30.0		mg/L			04/08/19 11:48	1

Lab Sample ID: LCS 310-234998/2
Matrix: Water
Analysis Batch: 234998

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1006		mg/L		101	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 310-235152/1
Matrix: Water
Analysis Batch: 235152

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<30.0		30.0		mg/L			04/09/19 10:18	1

Lab Sample ID: LCS 310-235152/2
Matrix: Water
Analysis Batch: 235152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	1008		mg/L		101	90 - 110		

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-234752/1
Matrix: Water
Analysis Batch: 234752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99	98 - 102		

Lab Sample ID: 310-152684-5 DU
Matrix: Ground Water
Analysis Batch: 234752

Client Sample ID: MW 305
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	HF		7.3		SU				0.4	20

HPLC/IC

Analysis Batch: 235211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	9056A	
310-152684-2	MW 302	Total/NA	Ground Water	9056A	
310-152684-2	MW 302	Total/NA	Ground Water	9056A	
310-152684-3	MW 303	Total/NA	Ground Water	9056A	
310-152684-4	MW 304	Total/NA	Ground Water	9056A	
310-152684-5	MW 305	Total/NA	Ground Water	9056A	
310-152684-6	MW 306	Total/NA	Ground Water	9056A	
310-152684-7	MW 307	Total/NA	Ground Water	9056A	
310-152684-8	MW 308	Total/NA	Ground Water	9056A	
310-152684-9	MW 309	Total/NA	Ground Water	9056A	
310-152684-10	MW 310	Total/NA	Ground Water	9056A	
310-152684-11	MW 311	Total/NA	Ground Water	9056A	
310-152684-12	Field Blank	Total/NA	Ground Water	9056A	
MB 310-235211/3	Method Blank	Total/NA	Water	9056A	
LCS 310-235211/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 234948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	3010A	
310-152684-2	MW 302	Total/NA	Ground Water	3010A	
310-152684-3	MW 303	Total/NA	Ground Water	3010A	
310-152684-4	MW 304	Total/NA	Ground Water	3010A	
310-152684-5	MW 305	Total/NA	Ground Water	3010A	
310-152684-6	MW 306	Total/NA	Ground Water	3010A	
310-152684-7	MW 307	Total/NA	Ground Water	3010A	
310-152684-8	MW 308	Total/NA	Ground Water	3010A	
310-152684-9	MW 309	Total/NA	Ground Water	3010A	
310-152684-10	MW 310	Total/NA	Ground Water	3010A	
310-152684-11	MW 311	Total/NA	Ground Water	3010A	
310-152684-12	Field Blank	Total/NA	Ground Water	3010A	
MB 310-234948/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-234948/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-152684-1 MS	MW 301	Total/NA	Ground Water	3010A	
310-152684-1 MSD	MW 301	Total/NA	Ground Water	3010A	
310-152684-11 DU	MW 311	Total/NA	Ground Water	3010A	

Prep Batch: 235138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	7470A	
310-152684-2	MW 302	Total/NA	Ground Water	7470A	
310-152684-3	MW 303	Total/NA	Ground Water	7470A	
310-152684-4	MW 304	Total/NA	Ground Water	7470A	
310-152684-5	MW 305	Total/NA	Ground Water	7470A	
310-152684-6	MW 306	Total/NA	Ground Water	7470A	
310-152684-7	MW 307	Total/NA	Ground Water	7470A	
310-152684-8	MW 308	Total/NA	Ground Water	7470A	
310-152684-9	MW 309	Total/NA	Ground Water	7470A	
310-152684-10	MW 310	Total/NA	Ground Water	7470A	
310-152684-11	MW 311	Total/NA	Ground Water	7470A	

Metals (Continued)

Prep Batch: 235138 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-12	Field Blank	Total/NA	Ground Water	7470A	
MB 310-235138/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-235138/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-152684-2 MS	MW 302	Total/NA	Ground Water	7470A	
310-152684-2 MSD	MW 302	Total/NA	Ground Water	7470A	

Analysis Batch: 235380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	7470A	235138
310-152684-2	MW 302	Total/NA	Ground Water	7470A	235138
310-152684-3	MW 303	Total/NA	Ground Water	7470A	235138
310-152684-4	MW 304	Total/NA	Ground Water	7470A	235138
310-152684-5	MW 305	Total/NA	Ground Water	7470A	235138
310-152684-6	MW 306	Total/NA	Ground Water	7470A	235138
310-152684-7	MW 307	Total/NA	Ground Water	7470A	235138
310-152684-8	MW 308	Total/NA	Ground Water	7470A	235138
310-152684-9	MW 309	Total/NA	Ground Water	7470A	235138
310-152684-10	MW 310	Total/NA	Ground Water	7470A	235138
310-152684-11	MW 311	Total/NA	Ground Water	7470A	235138
310-152684-12	Field Blank	Total/NA	Ground Water	7470A	235138
MB 310-235138/1-A	Method Blank	Total/NA	Water	7470A	235138
LCS 310-235138/2-A	Lab Control Sample	Total/NA	Water	7470A	235138
310-152684-2 MS	MW 302	Total/NA	Ground Water	7470A	235138
310-152684-2 MSD	MW 302	Total/NA	Ground Water	7470A	235138

Analysis Batch: 236393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	6020A	234948
310-152684-1	MW 301	Total/NA	Ground Water	6020A	234948
310-152684-2	MW 302	Total/NA	Ground Water	6020A	234948
310-152684-2	MW 302	Total/NA	Ground Water	6020A	234948
310-152684-3	MW 303	Total/NA	Ground Water	6020A	234948
310-152684-3	MW 303	Total/NA	Ground Water	6020A	234948
310-152684-4	MW 304	Total/NA	Ground Water	6020A	234948
310-152684-4	MW 304	Total/NA	Ground Water	6020A	234948
310-152684-5	MW 305	Total/NA	Ground Water	6020A	234948
310-152684-6	MW 306	Total/NA	Ground Water	6020A	234948
310-152684-7	MW 307	Total/NA	Ground Water	6020A	234948
310-152684-8	MW 308	Total/NA	Ground Water	6020A	234948
310-152684-9	MW 309	Total/NA	Ground Water	6020A	234948
310-152684-10	MW 310	Total/NA	Ground Water	6020A	234948
310-152684-11	MW 311	Total/NA	Ground Water	6020A	234948
310-152684-12	Field Blank	Total/NA	Ground Water	6020A	234948
MB 310-234948/1-A	Method Blank	Total/NA	Water	6020A	234948
LCS 310-234948/2-A	Lab Control Sample	Total/NA	Water	6020A	234948
310-152684-1 MS	MW 301	Total/NA	Ground Water	6020A	234948
310-152684-1 MS	MW 301	Total/NA	Ground Water	6020A	234948
310-152684-1 MSD	MW 301	Total/NA	Ground Water	6020A	234948
310-152684-1 MSD	MW 301	Total/NA	Ground Water	6020A	234948
310-152684-11 DU	MW 311	Total/NA	Ground Water	6020A	234948

Metals

Analysis Batch: 236650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	6020A	234948
310-152684-2	MW 302	Total/NA	Ground Water	6020A	234948
310-152684-3	MW 303	Total/NA	Ground Water	6020A	234948
310-152684-4	MW 304	Total/NA	Ground Water	6020A	234948
310-152684-5	MW 305	Total/NA	Ground Water	6020A	234948
310-152684-6	MW 306	Total/NA	Ground Water	6020A	234948
310-152684-7	MW 307	Total/NA	Ground Water	6020A	234948
310-152684-8	MW 308	Total/NA	Ground Water	6020A	234948
310-152684-9	MW 309	Total/NA	Ground Water	6020A	234948
310-152684-10	MW 310	Total/NA	Ground Water	6020A	234948
310-152684-11	MW 311	Total/NA	Ground Water	6020A	234948
310-152684-12	Field Blank	Total/NA	Ground Water	6020A	234948
MB 310-234948/1-A	Method Blank	Total/NA	Water	6020A	234948
LCS 310-234948/2-A	Lab Control Sample	Total/NA	Water	6020A	234948
310-152684-1 MS	MW 301	Total/NA	Ground Water	6020A	234948
310-152684-1 MSD	MW 301	Total/NA	Ground Water	6020A	234948
310-152684-11 DU	MW 311	Total/NA	Ground Water	6020A	234948

General Chemistry

Analysis Batch: 234752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-2	MW 302	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-3	MW 303	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-4	MW 304	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-5	MW 305	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-6	MW 306	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-7	MW 307	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-8	MW 308	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-9	MW 309	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-10	MW 310	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-11	MW 311	Total/NA	Ground Water	SM 4500 H+ B	
310-152684-12	Field Blank	Total/NA	Ground Water	SM 4500 H+ B	
LCS 310-234752/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-152684-5 DU	MW 305	Total/NA	Ground Water	SM 4500 H+ B	

Analysis Batch: 234998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	SM 2540C	
310-152684-2	MW 302	Total/NA	Ground Water	SM 2540C	
310-152684-3	MW 303	Total/NA	Ground Water	SM 2540C	
310-152684-4	MW 304	Total/NA	Ground Water	SM 2540C	
310-152684-5	MW 305	Total/NA	Ground Water	SM 2540C	
MB 310-234998/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-234998/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 235152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-6	MW 306	Total/NA	Ground Water	SM 2540C	
310-152684-7	MW 307	Total/NA	Ground Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 235152 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-8	MW 308	Total/NA	Ground Water	SM 2540C	
310-152684-9	MW 309	Total/NA	Ground Water	SM 2540C	
310-152684-10	MW 310	Total/NA	Ground Water	SM 2540C	
310-152684-11	MW 311	Total/NA	Ground Water	SM 2540C	
310-152684-12	Field Blank	Total/NA	Ground Water	SM 2540C	
MB 310-235152/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-235152/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 235149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	Field Sampling	
310-152684-2	MW 302	Total/NA	Ground Water	Field Sampling	
310-152684-3	MW 303	Total/NA	Ground Water	Field Sampling	
310-152684-4	MW 304	Total/NA	Ground Water	Field Sampling	
310-152684-5	MW 305	Total/NA	Ground Water	Field Sampling	
310-152684-6	MW 306	Total/NA	Ground Water	Field Sampling	
310-152684-7	MW 307	Total/NA	Ground Water	Field Sampling	
310-152684-8	MW 308	Total/NA	Ground Water	Field Sampling	
310-152684-9	MW 309	Total/NA	Ground Water	Field Sampling	
310-152684-10	MW 310	Total/NA	Ground Water	Field Sampling	
310-152684-11	MW 311	Total/NA	Ground Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 301

Date Collected: 04/03/19 14:20
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 20:30	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 18:41	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		10	236393	04/18/19 20:33	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 16:11	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:04	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	234998	04/08/19 11:48	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:33	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/03/19 14:20	ANO	TAL CF

Client Sample ID: MW 302

Date Collected: 04/03/19 15:22
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 20:43	MLU	TAL CF
Total/NA	Analysis	9056A		20	235211	04/09/19 08:59	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 18:51	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		10	236393	04/18/19 20:43	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 16:21	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:06	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	234998	04/08/19 11:48	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:36	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/03/19 15:22	ANO	TAL CF

Client Sample ID: MW 303

Date Collected: 04/03/19 16:02
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 20:57	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 18:54	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		10	236393	04/18/19 20:47	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 16:24	SAD	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 303

Date Collected: 04/03/19 16:02
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:17	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	234998	04/08/19 11:48	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:38	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/03/19 16:02	ANO	TAL CF

Client Sample ID: MW 304

Date Collected: 04/03/19 17:00
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 21:24	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 18:58	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		10	236393	04/18/19 20:50	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 16:27	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:19	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	234998	04/08/19 11:48	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:40	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/03/19 17:00	ANO	TAL CF

Client Sample ID: MW 305

Date Collected: 04/03/19 13:16
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 21:51	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 19:11	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 16:31	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:21	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	234998	04/08/19 11:48	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:46	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/03/19 13:16	ANO	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 306
Date Collected: 04/03/19 11:22
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-6
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 22:18	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 19:14	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 16:44	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:23	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	235152	04/09/19 10:18	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:50	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/03/19 11:22	ANO	TAL CF

Client Sample ID: MW 307
Date Collected: 04/03/19 12:05
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-7
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 23:13	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 19:17	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 16:47	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:25	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	235152	04/09/19 10:18	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:51	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/03/19 12:05	ANO	TAL CF

Client Sample ID: MW 308
Date Collected: 04/03/19 10:33
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-8
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 23:26	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 19:47	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		2	236650	04/19/19 16:51	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:27	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	235152	04/09/19 10:18	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:53	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/03/19 10:33	ANO	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: MW 309

Date Collected: 04/04/19 10:33
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 23:40	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 19:51	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		2	236650	04/19/19 16:54	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:29	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	235152	04/09/19 10:18	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:55	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/04/19 10:33	ANO	TAL CF

Client Sample ID: MW 310

Date Collected: 04/04/19 08:50
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-10

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/08/19 23:54	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 19:54	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 16:57	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:32	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	235152	04/09/19 10:18	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:57	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/04/19 08:50	ANO	TAL CF

Client Sample ID: MW 311

Date Collected: 04/04/19 09:34
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-11

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	235211	04/09/19 00:07	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 19:57	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 17:01	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:34	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	235152	04/09/19 10:18	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 00:59	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	235149	04/04/19 09:34	ANO	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Client Sample ID: Field Blank

Date Collected: 04/03/19 13:25
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-12

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	235211	04/09/19 00:21	MLU	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236393	04/18/19 20:04	SAD	TAL CF
Total/NA	Prep	3010A			234948	04/08/19 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	236650	04/19/19 17:07	SAD	TAL CF
Total/NA	Prep	7470A			235138	04/09/19 09:47	JNR	TAL CF
Total/NA	Analysis	7470A		1	235380	04/10/19 13:36	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	235152	04/09/19 10:18	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	234752	04/05/19 01:06	JMH	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Iowa	State Program	7	007	12-01-19

Method Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - Burlington Generating Station / SCS Engineers Project #25215173.10, Task 2

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	Field Blank	TOTAL
Appendix III Parameters	Boron	x	x	x	x	x	x	x	x	x	x	x	x	12
	Calcium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Chloride	x	x	x	x	x	x	x	x	x	x	x	x	12
	Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	12
	pH	x	x	x	x	x	x	x	x	x	x	x	x	12
	Sulfate	x	x	x	x	x	x	x	x	x	x	x	x	12
	TDS	x	x	x	x	x	x	x	x	x	x	x	x	12
Appendix IV Parameters	Antimony	x	x	x	x	x	x	x	x	x	x	x	x	12
	Arsenic	x	x	x	x	x	x	x	x	x	x	x	x	12
	Barium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Beryllium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Cadmium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Chromium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Cobalt	x	x	x	x	x	x	x	x	x	x	x	x	12
	Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	12
	Lead	x	x	x	x	x	x	x	x	x	x	x	x	12
	Lithium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Mercury	x	x	x	x	x	x	x	x	x	x	x	x	12
	Molybdenum	x	x	x	x	x	x	x	x	x	x	x	x	12
	Selenium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Thallium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Radium	x	x	x	x	x	x	x	x	x	x	x	x	12
Field Parameters	Groundwater Elevation	x	x	x	x	x	x	x	x	x	x	x		11
	Well Depth	x	x	x	x	x	x	x	x	x	x	x		11
	pH (field)	x	x	x	x	x	x	x	x	x	x	x		11
	Specific Conductance	x	x	x	x	x	x	x	x	x	x	x		11
	Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x		11
	ORP	x	x	x	x	x	x	x	x	x	x	x		11
	Temperature	x	x	x	x	x	x	x	x	x	x	x		11
	Turbidity	x	x	x	x	x	x	x	x	x	x	x		11
	Color	x	x	x	x	x	x	x	x	x	x	x		11
	Odor	x	x	x	x	x	x	x	x	x	x	x		11

Notes: All samples are unfiltered (total).

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Table 2. Groundwater Monitoring Results - Field Parameters
Burlington Generating Station / SCS Engineers Project No. 25219066
April 2019

Sample	Sample Date/Time	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity	Groundwater Elevation (amsl)
MW-301	4/3/2019 1420	12.35	7.53	0.59	1213	-144.7	21.10	528.15
MW-302	4/3/2019 1522	11.41	8.70	0.58	1164	-215.8	18.80	528.21
MW-303	4/3/2019 1602	12.63	7.79	0.67	711	-122.8	18.20	528.22
MW-304	4/3/2019 1700	12.96	8.56	0.39	658	-216.7	6.22	528.27
MW-305	4/3/2019 1316	14.47	7.80	0.59	733	-133.5	3.88	528.36
MW-306	4/3/2019 1122	13.44	6.69	0.69	4711	-92.8	0.81	528.40
MW-307	4/3/2019 1205	13.56	10.39	0.68	500	-167.8	3.10	528.63
MW-308	4/3/2019 1033	14.04	9.97	1.16	681	-142.3	1.66	528.39
MW-309	4/4/2019 1033	12.60	7.45	0.51	997	-99.4	20.1	528.40
MW-310	4/4/2019 0850	10.8	7.84	1.12	1034	-175.8	16.70	528.62
MW-311	4/4/2019 0934	11.41	7.64	0.78	1422	145.8	10.80	528.20

Abbreviations:
mg/L = milligrams per liter amsl = above mean sea level mV = millivolts µmhos/cm = micromohs per cm

Notes: turbidity not measured at MW-310
None

Created by: KAK Date: 8/28/2017
Last revision by: NDK Date: 4/5/2019
Checked by: AJR Date: 4/8/2019

I:\25219066.00\Data and Calculations\Tables\[BGS_CCR_Field_1904.xlsx]GW Field Parameters

TestAmerica
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310-152684 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project: Burlington

Receipt Information

Date/Time Received: DATE 4-4-19 TIME 1800 Received By: LAB

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID: EZ8

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 1 of 3

Cooler Custody Seals Present? ☒ Yes ☐ No *If yes:* Cooler custody seals intact? ☒ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): +0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.7 Corrected Temp (°C): 1.7

• **Sample Container Temperature**

Container type(s) used:	CONTAINER 1		CONTAINER 2	
Uncorrected Temp (°C):	TEMP 1	TEMP 2	Corrected Temp (°C): TEMP 1	TEMP 2

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Place COC scanning label here
214

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project: Burlington

Receipt Information

Date/Time Received: DATE 4-4-19 TIME 1800 Received By: LAB

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 2 of 3
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): +0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 3.8 Corrected Temp (°C): 3.8

• **Sample Container Temperature**

Container type(s) used:	CONTAINER 1		CONTAINER 2		
Uncorrected Temp (°C):	TEMP 1	TEMP 2	Corrected Temp (°C):	TEMP 1	TEMP 2

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Place COC scanning label here
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Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA | Project: Burlington

Receipt Information

Date/Time Received: DATE 4-4-19 TIME 1800 | Received By: LAB

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID: AA - 18
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 3 of 3
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): +0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.2 | Corrected Temp (°C): 4.2

• **Sample Container Temperature**

Container type(s) used:	CONTAINER 1		CONTAINER 2	
Uncorrected Temp (°C):	TEMP 1	TEMP 2	Corrected Temp (°C): TEMP 1	TEMP 2

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

2 1L Nitric, 1 PL 250 Nitric + 1 PL500NT rcvd empty

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613

Phone 319-277-2401 or 800-750-2401
Fax 319-277-2425

TestAmerica Des Moines SC
214

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring ____

Client Name: SCS Engineers Client #: ____
Address: 8450 Hickman Rd Suite 20
City/State/Zip Code: Clive IA
Project Manager: ____
Email Address: ____
Telephone Number: ____ Fax: ____
Sampler Name: (Print Name) Nick Schemmel
Sampler Signature: ____

Project Name: Burlington
Project #: 25216066
Site/Location ID: Burlington State: IA
Report To: ____
Invoice To: ____
Quote #: ____ PO#: ____

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: ____
Fax Results: Y N
Email Results: Y N

Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify, Other
Preservation & # of Containers: HNO_3, HCl, NaOH, H_2SO_4, Methanol, None, Other (Specify)
Analyze For: Metals, pH, TDS, Chloride/Fluoride/SO4, Radium 226+228

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: ____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Metals	pH	TDS	Chloride/Fluoride/SO4	Radium 226+228	REMARKS
MW 301	4.3.19	1420	G		GW	3					1		X	X	X	X	X	
MW 302		1522				3					1		X	X	X	X	X	
MW 303		1602				3					1		X	X	X	X	X	
MW 304		1700				3					1		X	X	X	X	X	
MW 305		1316				3					1		X	X	X	X	X	
MW 306		1122				3					1		X	X	X	X	X	
MW 307		1205				3					1		X	X	X	X	X	
MW 308		1033				3					1		X	X	X	X	X	
MW 309	4.4.19	1033				3					1		X	X	X	X	X	

Special Instructions:

LABORATORY COMMENTS:

Relinquished By: Nick Schemmel	Date: 4.4.19	Time:	Received By:	Date: 4/4/19	Time: 14:59
Relinquished By:	Date:	Time:	Received By: Lindsay Bindl	Date: 4/4/19	Time: 1800
Relinquished By:	Date: 4.4.19	Time:	Received By:	Date:	Time:

TAL-0033 (0708)

Page ____ of ____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613

Phone 319-277-2401 or 800-750-2401
Fax 319-277-2425

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

TestAmerica Des Moines 30
214

Client Name: SCS Engineers Client #: _____
Address: 8450 Hickman Rd Suite 20
City/State/Zip Code: Clive IA
Project Manager: _____
Email Address: _____
Telephone Number: _____ Fax: _____
Sampler Name: (Print Name) Nick Schemmel
Sampler Signature: [signature]

Project Name: Burlington
Project #: 25216066
Site/Location ID: Burlington State: IA
Report To: _____
Invoice To: _____
Quote #: _____ PO#: _____

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: _____
Fax Results: Y N
Email Results: Y N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify, Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: Metals	pH	TDS	Chloride/Fluoride/SO4	Radium 226+228	QC Deliverables	REMARKS
MW 310	4.4.19	0850	G		GW	3					1		X	X	X	X	X		
MW 311	↓	0934	↓		↓	3					1		X	X	X	X	X		
Field Blank	4.3.19	1325	↓		↓	3					1		X	X	X	X	X		

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: _____

Special Instructions:

LABORATORY COMMENTS:

	Date:	Time:		Date:	Time:
Relinquished By: Nick Schemmel	4.4.19		Received By: [signature]	4/4/19	14:59
Relinquished By:	Date:	Time:	Received By: Lindsay Brolet	4.4.19	1800
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAL-0033 (0708)

Page _____ of _____

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
MW 301	310-152684-A-1	Plastic 250ml - with Nitric Acid	<2		
MW 301	310-152684-C-1	Plastic 1 liter - Nitric Acid	<2		
MW 301	310-152684-D-1	Plastic 1 liter - Nitric Acid	<2		
MW 302	310-152684-A-2	Plastic 250ml - with Nitric Acid	<2		
MW 302	310-152684-C-2	Plastic 1 liter - Nitric Acid	<2		
MW 302	310-152684-D-2	Plastic 1 liter - Nitric Acid	<2		
MW 303	310-152684-A-3	Plastic 250ml - with Nitric Acid	<2		
MW 303	310-152684-C-3	Plastic 1 liter - Nitric Acid	<2		
MW 303	310-152684-D-3	Plastic 1 liter - Nitric Acid	<2		
MW 304	310-152684-A-4	Plastic 250ml - with Nitric Acid	<2		
MW 304	310-152684-C-4	Plastic 1 liter - Nitric Acid	<2		
MW 304	310-152684-D-4	Plastic 1 liter - Nitric Acid	<2		
MW 305	310-152684-A-5	Plastic 250ml - with Nitric Acid	<2		
MW 305	310-152684-C-5	Plastic 1 liter - Nitric Acid	<2		
MW 305	310-152684-D-5	Plastic 1 liter - Nitric Acid	<2		
MW 306	310-152684-A-6	Plastic 250ml - with Nitric Acid	<2		
MW 306	310-152684-C-6	Plastic 1 liter - Nitric Acid	<2		
MW 306	310-152684-D-6	Plastic 1 liter - Nitric Acid	<2		
MW 307	310-152684-A-7	Plastic 250ml - with Nitric Acid	<2		
MW 307	310-152684-C-7	Plastic 1 liter - Nitric Acid	<2		
MW 307	310-152684-D-7	Plastic 1 liter - Nitric Acid	<2		
MW 308	310-152684-A-8	Plastic 250ml - with Nitric Acid	<2		
MW 308	310-152684-C-8	Plastic 1 liter - Nitric Acid	<2		
MW 308	310-152684-D-8	Plastic 1 liter - Nitric Acid	<2		
MW 309	310-152684-A-9	Plastic 250ml - with Nitric Acid	<2		
MW 309	310-152684-C-9	Plastic 1 liter - Nitric Acid	<2		
MW 309	310-152684-D-9	Plastic 1 liter - Nitric Acid	<2		
MW 310	310-152684-A-10	Plastic 250ml - with Nitric Acid	<2		
MW 310	310-152684-C-10	Plastic 1 liter - Nitric Acid	<2		
MW 310	310-152684-D-10	Plastic 1 liter - Nitric Acid	<2		
MW 311	310-152684-A-11	Plastic 250ml - with Nitric Acid	<2		
MW 311	310-152684-C-11	Plastic 1 liter - Nitric Acid	<2		
MW 311	310-152684-D-11	Plastic 1 liter - Nitric Acid	<2		
Field Blank	310-152684-A-12	Plastic 250ml - with Nitric Acid	<2		
Field Blank	310-152684-C-12	Plastic 1 liter - Nitric Acid	<2		
Field Blank	310-152684-D-12	Plastic 1 liter - Nitric Acid	<2		

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-152684-1
SDG Number: 25216066

Login Number: 152684
List Number: 1
Creator: Bovy, Lorrainna L

List Source: Eurofins TestAmerica, Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Method: 903.0 - Radium-226 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)
310-152684-1	MW 301	101
310-152684-2	MW 302	93.8
310-152684-3	MW 303	100
310-152684-4	MW 304	97.5
310-152684-5	MW 305	91.0
310-152684-6	MW 306	99.2
310-152684-7	MW 307	94.9
310-152684-8	MW 308	98.9
310-152684-9	MW 309	98.6
310-152684-10	MW 310	100
310-152684-11	MW 311	100
310-152684-12	Field Blank	93.8

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)
LCS 160-424079/1-A	Lab Control Sample	110
LCS 160-424949/1-A	Lab Control Sample	101
LCSD 160-424079/2-A	Lab Control Sample Dup	106
LCSD 160-424949/2-A	Lab Control Sample Dup	103
MB 160-424079/23-A	Method Blank	104
MB 160-424949/23-A	Method Blank	109

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)	Y Carrier (40-110)
310-152684-1	MW 301	101	80.0
310-152684-2	MW 302	93.8	80.4
310-152684-3	MW 303	100	73.3
310-152684-4	MW 304	97.5	76.6
310-152684-5	MW 305	91.0	75.1
310-152684-6	MW 306	99.2	79.3
310-152684-7	MW 307	94.9	90.8
310-152684-8	MW 308	98.9	92.3
310-152684-9	MW 309	98.6	88.6
310-152684-10	MW 310	100	90.8
310-152684-11	MW 311	100	91.2
310-152684-12	Field Blank	93.8	93.5

Tracer/Carrier Legend

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-1
SDG: 25216066

Ba Carrier = Ba Carrier
Y Carrier = Y Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Y Carrier (40-110)
LCS 160-424232/1-A	Lab Control Sample	110	72.1
LCS 160-424953/1-A	Lab Control Sample	101	97.6
LCSD 160-424232/2-A	Lab Control Sample Dup	106	78.9
LCSD 160-424953/2-A	Lab Control Sample Dup	103	92.3
MB 160-424232/23-A	Method Blank	104	80.0
MB 160-424953/23-A	Method Blank	109	86.4

Tracer/Carrier Legend

Ba Carrier = Ba Carrier
Y Carrier = Y Carrier

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-152684-2
Laboratory Sample Delivery Group: 25216066
Client Project/Site: Burlington - 25216066

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
7/11/2019 9:22:50 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Job ID: 310-152684-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-152684-2

Comments
No additional comments.

Receipt
The samples were received on 4/4/2019 6:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.7º C, 3.8º C and 4.2º C.

RAD
Method(s) 903.0, 9315: Ra-226 Prep Batch 160-424949
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
MW 307 (310-152684-7), MW 308 (310-152684-8), MW 309 (310-152684-9), MW 310 (310-152684-10), MW 311 (310-152684-11), Field Blank (310-152684-12), (LCS 160-424949/1-A), (LCSD 160-424949/2-A) and (MB 160-424949/23-A)

Method(s) 903.0: Ra-226 Prep Batch 160-424079
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
MW 301 (310-152684-1), MW 302 (310-152684-2), MW 303 (310-152684-3), MW 304 (310-152684-4), MW 305 (310-152684-5), MW 306 (310-152684-6), (LCS 160-424079/1-A), (LCSD 160-424079/2-A) and (MB 160-424079/23-A)

Method(s) 904.0: Ra-228 Prep Batch 160-424232
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
MW 301 (310-152684-1), MW 302 (310-152684-2), MW 303 (310-152684-3), MW 304 (310-152684-4), MW 305 (310-152684-5), MW 306 (310-152684-6), (LCS 160-424232/1-A), (LCSD 160-424232/2-A) and (MB 160-424232/23-A)

Method(s) 904.0, 9320: Ra-228 Prep Batch 160-424953
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
MW 307 (310-152684-7), MW 308 (310-152684-8), MW 309 (310-152684-9), MW 310 (310-152684-10), MW 311 (310-152684-11), Field Blank (310-152684-12), (LCS 160-424953/1-A), (LCSD 160-424953/2-A) and (MB 160-424953/23-A)

Method(s) PrecSep_0: Radium-228 Prep Batch 424232:
Insufficient sample volume was available to perform a sample duplicate for the following samples: MW 301 (310-152684-1), MW 302 (310-152684-2), MW 303 (310-152684-3), MW 304 (310-152684-4), MW 305 (310-152684-5) and MW 306 (310-152684-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-424953:
Insufficient sample volume was available to perform a sample duplicate for the following samples: MW 307 (310-152684-7), MW 308 (310-152684-8), MW 309 (310-152684-9), MW 310 (310-152684-10), MW 311 (310-152684-11) and Field Blank (310-152684-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium-226 Prep Batch 424079:
Insufficient sample volume was available to perform a sample duplicate for the following samples: MW 301 (310-152684-1), MW 302

Job ID: 310-152684-2 (Continued)

Laboratory: Eurofins TestAmerica, Cedar Falls (Continued)

(310-152684-2), MW 303 (310-152684-3), MW 304 (310-152684-4), MW 305 (310-152684-5) and MW 306 (310-152684-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-424949:
Insufficient sample volume was available to perform a sample duplicate for the following samples: MW 307 (310-152684-7), MW 308 (310-152684-8), MW 309 (310-152684-9), MW 310 (310-152684-10), MW 311 (310-152684-11) and Field Blank (310-152684-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-152684-1	MW 301	Ground Water	04/03/19 14:20	04/04/19 18:00	
310-152684-2	MW 302	Ground Water	04/03/19 15:22	04/04/19 18:00	
310-152684-3	MW 303	Ground Water	04/03/19 16:02	04/04/19 18:00	
310-152684-4	MW 304	Ground Water	04/03/19 17:00	04/04/19 18:00	
310-152684-5	MW 305	Ground Water	04/03/19 13:16	04/04/19 18:00	
310-152684-6	MW 306	Ground Water	04/03/19 11:22	04/04/19 18:00	
310-152684-7	MW 307	Ground Water	04/03/19 12:05	04/04/19 18:00	
310-152684-8	MW 308	Ground Water	04/03/19 10:33	04/04/19 18:00	
310-152684-9	MW 309	Ground Water	04/04/19 10:33	04/04/19 18:00	
310-152684-10	MW 310	Ground Water	04/04/19 08:50	04/04/19 18:00	
310-152684-11	MW 311	Ground Water	04/04/19 09:34	04/04/19 18:00	
310-152684-12	Field Blank	Ground Water	04/03/19 13:25	04/04/19 18:00	

Detection Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Client Sample ID: MW 301 — Lab Sample ID: 310-152684-1

No Detections.

Client Sample ID: MW 302 — Lab Sample ID: 310-152684-2

No Detections.

Client Sample ID: MW 303 — Lab Sample ID: 310-152684-3

No Detections.

Client Sample ID: MW 304 — Lab Sample ID: 310-152684-4

No Detections.

Client Sample ID: MW 305 — Lab Sample ID: 310-152684-5

No Detections.

Client Sample ID: MW 306 — Lab Sample ID: 310-152684-6

No Detections.

Client Sample ID: MW 307 — Lab Sample ID: 310-152684-7

No Detections.

Client Sample ID: MW 308 — Lab Sample ID: 310-152684-8

No Detections.

Client Sample ID: MW 309 — Lab Sample ID: 310-152684-9

No Detections.

Client Sample ID: MW 310 — Lab Sample ID: 310-152684-10

No Detections.

Client Sample ID: MW 311 — Lab Sample ID: 310-152684-11

No Detections.

Client Sample ID: Field Blank — Lab Sample ID: 310-152684-12

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW 301

Date Collected: 04/03/19 14:20
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-1

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.411		0.115	0.121	1.00	0.0740	pCi/L	04/16/19 17:52	05/13/19 06:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*04/16/19 17:52*	*05/13/19 06:37*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.736		0.267	0.276	1.00	0.365	pCi/L	04/17/19 10:22	05/06/19 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*
Y Carrier	*80.0*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.15		0.291	0.301	5.00	0.365	pCi/L		05/30/19 09:32	1

Client Sample ID: MW 302

Date Collected: 04/03/19 15:22
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-2

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.362		0.115	0.119	1.00	0.0898	pCi/L	04/16/19 17:52	05/13/19 06:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.8*		*40 - 110*	*04/16/19 17:52*	*05/13/19 06:37*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.510		0.262	0.266	1.00	0.387	pCi/L	04/17/19 10:22	05/06/19 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.8*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*
Y Carrier	*80.4*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.872		0.286	0.291	5.00	0.387	pCi/L		05/30/19 09:32	1

Client Sample ID: MW 303

Date Collected: 04/03/19 16:02
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-3

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.552		0.133	0.142	1.00	0.0875	pCi/L	04/16/19 17:52	05/13/19 06:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*04/16/19 17:52*	*05/13/19 06:37*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.703		0.272	0.279	1.00	0.372	pCi/L	04/17/19 10:22	05/06/19 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*
Y Carrier	*73.3*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.26		0.303	0.313	5.00	0.372	pCi/L		05/30/19 09:32	1

Client Sample ID: MW 304

Date Collected: 04/03/19 17:00
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-4

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.116		0.0747	0.0754	1.00	0.101	pCi/L	04/16/19 17:52	05/13/19 06:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.5*		*40 - 110*	*04/16/19 17:52*	*05/13/19 06:37*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.292	U	0.240	0.241	1.00	0.380	pCi/L	04/17/19 10:22	05/06/19 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.5*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*
Y Carrier	*76.6*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.408		0.251	0.253	5.00	0.380	pCi/L		05/30/19 09:32	1

Client Sample ID: MW 305

Date Collected: 04/03/19 13:16
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-5

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.154		0.0830	0.0841	1.00	0.0991	pCi/L	04/16/19 17:52	05/13/19 06:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.0*		*40 - 110*	*04/16/19 17:52*	*05/13/19 06:37*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.365	U	0.265	0.267	1.00	0.414	pCi/L	04/17/19 10:22	05/06/19 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.0*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*
Y Carrier	*75.1*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:59*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.519		0.278	0.280	5.00	0.414	pCi/L		05/30/19 09:32	1

Client Sample ID: MW 306

Date Collected: 04/03/19 11:22
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-6

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0333	U	0.0586	0.0587	1.00	0.104	pCi/L	04/16/19 17:52	05/13/19 06:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.2*		*40 - 110*	*04/16/19 17:52*	*05/13/19 06:38*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.132	U	0.213	0.213	1.00	0.360	pCi/L	04/17/19 10:22	05/06/19 14:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.2*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:57*	*1*
Y Carrier	*79.3*		*40 - 110*	*04/17/19 10:22*	*05/06/19 14:57*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.165	U	0.221	0.221	5.00	0.360	pCi/L		05/30/19 09:32	1

Client Sample ID: MW 307

Date Collected: 04/03/19 12:05
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-7

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0752	U	0.0749	0.0752	1.00	0.118	pCi/L	04/22/19 12:18	05/18/19 21:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*04/22/19 12:18*	*05/18/19 21:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.372**		0.219	0.222	1.00	0.329	pCi/L	04/22/19 12:52	05/09/19 08:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*
Y Carrier	*90.8*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.447**		0.231	0.234	5.00	0.329	pCi/L		05/30/19 09:32	1

Client Sample ID: MW 308

Date Collected: 04/03/19 10:33
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-8

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0363	U	0.0564	0.0565	1.00	0.0979	pCi/L	04/22/19 12:18	05/18/19 21:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.9*		*40 - 110*	*04/22/19 12:18*	*05/18/19 21:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.291**		0.182	0.184	1.00	0.273	pCi/L	04/22/19 12:52	05/09/19 08:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.9*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*
Y Carrier	*92.3*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.328**		0.191	0.192	5.00	0.273	pCi/L		05/30/19 09:32	1

Client Sample ID: MW 309

Date Collected: 04/04/19 10:33
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-9

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.126		0.0764	0.0772	1.00	0.0951	pCi/L	04/22/19 12:18	05/18/19 21:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.6*		*40 - 110*	*04/22/19 12:18*	*05/18/19 21:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.295	U	0.223	0.224	1.00	0.351	pCi/L	04/22/19 12:52	05/09/19 08:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.6*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*
Y Carrier	*88.6*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.420		0.236	0.237	5.00	0.351	pCi/L		05/30/19 09:32	1

Client Sample ID: MW 310

Date Collected: 04/04/19 08:50
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-10

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.471		0.125	0.132	1.00	0.0869	pCi/L	04/22/19 12:18	05/18/19 21:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*04/22/19 12:18*	*05/18/19 21:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.724		0.240	0.249	1.00	0.311	pCi/L	04/22/19 12:52	05/09/19 08:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*
Y Carrier	*90.8*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.19		0.271	0.282	5.00	0.311	pCi/L		05/30/19 09:32	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Client Sample ID: MW 311

Date Collected: 04/04/19 09:34
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-11

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.198		0.0995	0.101	1.00	0.125	pCi/L	04/22/19 12:18	05/18/19 21:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*04/22/19 12:18*	*05/18/19 21:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.617		0.228	0.235	1.00	0.307	pCi/L	04/22/19 12:52	05/09/19 08:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*
Y Carrier	*91.2*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.815		0.249	0.256	5.00	0.307	pCi/L		05/30/19 09:32	1

Client Sample ID: Field Blank

Date Collected: 04/03/19 13:25
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-12

Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0144	U	0.0498	0.0498	1.00	0.0971	pCi/L	04/22/19 12:18	05/18/19 21:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.8*		*40 - 110*	*04/22/19 12:18*	*05/18/19 21:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.205	U	0.192	0.193	1.00	0.309	pCi/L	04/22/19 12:52	05/09/19 08:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.8*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*
Y Carrier	*93.5*		*40 - 110*	*04/22/19 12:52*	*05/09/19 08:49*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.220	U	0.198	0.199	5.00	0.309	pCi/L		05/30/19 09:32	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-424079/23-A
Matrix: Water
Analysis Batch: 428063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 424079

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.05045	U	0.0502	0.0504	1.00	0.0756	pCi/L	04/16/19 17:52	05/13/19 06:39	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*04/16/19 17:52*	*05/13/19 06:39*	*1*

Lab Sample ID: LCS 160-424079/1-A
Matrix: Water
Analysis Batch: 428036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 424079

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	9.128		0.978	1.00	0.0983	pCi/L	80	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*110*		*40 - 110*

Lab Sample ID: LCSD 160-424079/2-A
Matrix: Water
Analysis Batch: 428036

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 424079

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	9.623		1.03	1.00	0.132	pCi/L	85	75 - 125	0.25	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*

Lab Sample ID: MB 160-424949/23-A
Matrix: Water
Analysis Batch: 429045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 424949

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04549	U	0.0674	0.0675	1.00	0.115	pCi/L	04/22/19 12:18	05/18/19 21:52	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*04/22/19 12:18*	*05/18/19 21:52*	*1*

Lab Sample ID: LCS 160-424949/1-A
Matrix: Water
Analysis Batch: 429039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 424949

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	9.893		1.04	1.00	0.0943	pCi/L	87	75 - 125		

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-424949/1-A
Matrix: Water
Analysis Batch: 429039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 424949

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	101		40 - 110

Lab Sample ID: LCSD 160-424949/2-A
Matrix: Water
Analysis Batch: 429039

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 424949

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	9.274		0.972	1.00	0.0830	pCi/L	82	75 - 125	0.31	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	103		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-424232/23-A
Matrix: Water
Analysis Batch: 426899

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 424232

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.2294	U	0.220	0.221	1.00	0.425	pCi/L	04/17/19 10:22	05/06/19 15:01	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110	04/17/19 10:22	05/06/19 15:01	1
Y Carrier	80.0		40 - 110	04/17/19 10:22	05/06/19 15:01	1

Lab Sample ID: LCS 160-424232/1-A
Matrix: Water
Analysis Batch: 426797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 424232

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.23	8.954		1.04	1.00	0.362	pCi/L	97	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	110		40 - 110
Y Carrier	72.1		40 - 110

Lab Sample ID: LCSD 160-424232/2-A
Matrix: Water
Analysis Batch: 426797

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 424232

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.23	8.545		0.998	1.00	0.349	pCi/L	93	75 - 125	0.20	1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-424232/2-A
Matrix: Water
Analysis Batch: 426797

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 424232

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	106		40 - 110
Y Carrier	78.9		40 - 110

Lab Sample ID: MB 160-424953/23-A
Matrix: Water
Analysis Batch: 427793

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 424953

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3031	U	0.205	0.207	1.00	0.317	pCi/L	04/22/19 12:52	05/09/19 08:49	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110	04/22/19 12:52	05/09/19 08:49	1
Y Carrier	86.4		40 - 110	04/22/19 12:52	05/09/19 08:49	1

Lab Sample ID: LCS 160-424953/1-A
Matrix: Water
Analysis Batch: 427795

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 424953

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.23	8.758		1.00	1.00	0.374	pCi/L	95	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	101		40 - 110
Y Carrier	97.6		40 - 110

Lab Sample ID: LCSD 160-424953/2-A
Matrix: Water
Analysis Batch: 427795

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 424953

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.23	9.013		1.02	1.00	0.345	pCi/L	98	75 - 125	0.13	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	103		40 - 110
Y Carrier	92.3		40 - 110

Rad

Prep Batch: 424079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	PrecSep-21	
310-152684-2	MW 302	Total/NA	Ground Water	PrecSep-21	
310-152684-3	MW 303	Total/NA	Ground Water	PrecSep-21	
310-152684-4	MW 304	Total/NA	Ground Water	PrecSep-21	
310-152684-5	MW 305	Total/NA	Ground Water	PrecSep-21	
310-152684-6	MW 306	Total/NA	Ground Water	PrecSep-21	
MB 160-424079/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-424079/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-424079/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 424232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-1	MW 301	Total/NA	Ground Water	PrecSep_0	
310-152684-2	MW 302	Total/NA	Ground Water	PrecSep_0	
310-152684-3	MW 303	Total/NA	Ground Water	PrecSep_0	
310-152684-4	MW 304	Total/NA	Ground Water	PrecSep_0	
310-152684-5	MW 305	Total/NA	Ground Water	PrecSep_0	
310-152684-6	MW 306	Total/NA	Ground Water	PrecSep_0	
MB 160-424232/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-424232/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-424232/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 424949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-7	MW 307	Total/NA	Ground Water	PrecSep-21	
310-152684-8	MW 308	Total/NA	Ground Water	PrecSep-21	
310-152684-9	MW 309	Total/NA	Ground Water	PrecSep-21	
310-152684-10	MW 310	Total/NA	Ground Water	PrecSep-21	
310-152684-11	MW 311	Total/NA	Ground Water	PrecSep-21	
310-152684-12	Field Blank	Total/NA	Ground Water	PrecSep-21	
MB 160-424949/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-424949/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-424949/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 424953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-152684-7	MW 307	Total/NA	Ground Water	PrecSep_0	
310-152684-8	MW 308	Total/NA	Ground Water	PrecSep_0	
310-152684-9	MW 309	Total/NA	Ground Water	PrecSep_0	
310-152684-10	MW 310	Total/NA	Ground Water	PrecSep_0	
310-152684-11	MW 311	Total/NA	Ground Water	PrecSep_0	
310-152684-12	Field Blank	Total/NA	Ground Water	PrecSep_0	
MB 160-424953/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-424953/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-424953/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Client Sample ID: MW 301
Date Collected: 04/03/19 14:20
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-1
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424079	04/16/19 17:52	CMM	TAL SL
Total/NA	Analysis	903.0		1	428065	05/13/19 06:37	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424232	04/17/19 10:22	HET	TAL SL
Total/NA	Analysis	904.0		1	426797	05/06/19 14:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Client Sample ID: MW 302
Date Collected: 04/03/19 15:22
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-2
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424079	04/16/19 17:52	CMM	TAL SL
Total/NA	Analysis	903.0		1	428065	05/13/19 06:37	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424232	04/17/19 10:22	HET	TAL SL
Total/NA	Analysis	904.0		1	426797	05/06/19 14:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Client Sample ID: MW 303
Date Collected: 04/03/19 16:02
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-3
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424079	04/16/19 17:52	CMM	TAL SL
Total/NA	Analysis	903.0		1	428065	05/13/19 06:37	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424232	04/17/19 10:22	HET	TAL SL
Total/NA	Analysis	904.0		1	426797	05/06/19 14:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Client Sample ID: MW 304
Date Collected: 04/03/19 17:00
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-4
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424079	04/16/19 17:52	CMM	TAL SL
Total/NA	Analysis	903.0		1	428065	05/13/19 06:37	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424232	04/17/19 10:22	HET	TAL SL
Total/NA	Analysis	904.0		1	426797	05/06/19 14:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Client Sample ID: MW 305
Date Collected: 04/03/19 13:16
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-5
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424079	04/16/19 17:52	CMM	TAL SL
Total/NA	Analysis	903.0		1	428065	05/13/19 06:37	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424232	04/17/19 10:22	HET	TAL SL
Total/NA	Analysis	904.0		1	426797	05/06/19 14:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Client Sample ID: MW 306
Date Collected: 04/03/19 11:22
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-6
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424079	04/16/19 17:52	CMM	TAL SL
Total/NA	Analysis	903.0		1	428063	05/13/19 06:38	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424232	04/17/19 10:22	HET	TAL SL
Total/NA	Analysis	904.0		1	426896	05/06/19 14:57	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Client Sample ID: MW 307
Date Collected: 04/03/19 12:05
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-7
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424949	04/22/19 12:18	JLC	TAL SL
Total/NA	Analysis	903.0		1	429045	05/18/19 21:51	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424953	04/22/19 12:52	JLC	TAL SL
Total/NA	Analysis	904.0		1	427793	05/09/19 08:49	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Client Sample ID: MW 308
Date Collected: 04/03/19 10:33
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-8
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424949	04/22/19 12:18	JLC	TAL SL
Total/NA	Analysis	903.0		1	429045	05/18/19 21:51	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424953	04/22/19 12:52	JLC	TAL SL
Total/NA	Analysis	904.0		1	427793	05/09/19 08:49	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Client Sample ID: MW 309
Date Collected: 04/04/19 10:33
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-9
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424949	04/22/19 12:18	JLC	TAL SL
Total/NA	Analysis	903.0		1	429045	05/18/19 21:52	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424953	04/22/19 12:52	JLC	TAL SL
Total/NA	Analysis	904.0		1	427793	05/09/19 08:49	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Client Sample ID: MW 310
Date Collected: 04/04/19 08:50
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-10
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424949	04/22/19 12:18	JLC	TAL SL
Total/NA	Analysis	903.0		1	429045	05/18/19 21:52	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424953	04/22/19 12:52	JLC	TAL SL
Total/NA	Analysis	904.0		1	427793	05/09/19 08:49	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Client Sample ID: MW 311
Date Collected: 04/04/19 09:34
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-11
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424949	04/22/19 12:18	JLC	TAL SL
Total/NA	Analysis	903.0		1	429045	05/18/19 21:52	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424953	04/22/19 12:52	JLC	TAL SL
Total/NA	Analysis	904.0		1	427793	05/09/19 08:49	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Client Sample ID: Field Blank
Date Collected: 04/03/19 13:25
Date Received: 04/04/19 18:00

Lab Sample ID: 310-152684-12
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			424949	04/22/19 12:18	JLC	TAL SL
Total/NA	Analysis	903.0		1	429045	05/18/19 21:52	CDR	TAL SL
Total/NA	Prep	PrecSep_0			424953	04/22/19 12:52	JLC	TAL SL
Total/NA	Analysis	904.0		1	427793	05/09/19 08:49	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	430228	05/30/19 09:32	SMP	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Laboratory: Eurofins TestAmerica, Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-20
Georgia	State Program	4	IA100001 (OR)	09-29-19
Illinois	NELAP	5	200024	11-29-19
Illinois	NELAP		200024	11-29-19
Iowa	State Program	7	007	12-01-19
Kansas	NELAP	7	E-10341	01-31-20
Minnesota	NELAP	5	019-999-319	12-31-19
Minnesota	NELAP		019-999-319	12-31-19
Minnesota (Petrofund)	State Program	1	3349	08-22-19
North Dakota	State Program	8	R-186	09-29-19
Oregon	NELAP	10	IA100001	09-29-19
Oregon	NELAP		IA100001	09-29-19
USDA	Federal		P330-19-00003	01-02-22

Laboratory: Eurofins TestAmerica, St. Louis

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Iowa	State Program	7	373	12-01-20

Method Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - Burlington Generating Station / SCS Engineers Project #25215173.10, Task 2

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	Field Blank	TOTAL
Appendix III Parameters	Boron	x	x	x	x	x	x	x	x	x	x	x	x	12
	Calcium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Chloride	x	x	x	x	x	x	x	x	x	x	x	x	12
	Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	12
	pH	x	x	x	x	x	x	x	x	x	x	x	x	12
	Sulfate	x	x	x	x	x	x	x	x	x	x	x	x	12
	TDS	x	x	x	x	x	x	x	x	x	x	x	x	12
Appendix IV Parameters	Antimony	x	x	x	x	x	x	x	x	x	x	x	x	12
	Arsenic	x	x	x	x	x	x	x	x	x	x	x	x	12
	Barium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Beryllium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Cadmium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Chromium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Cobalt	x	x	x	x	x	x	x	x	x	x	x	x	12
	Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	12
	Lead	x	x	x	x	x	x	x	x	x	x	x	x	12
	Lithium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Mercury	x	x	x	x	x	x	x	x	x	x	x	x	12
	Molybdenum	x	x	x	x	x	x	x	x	x	x	x	x	12
	Selenium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Thallium	x	x	x	x	x	x	x	x	x	x	x	x	12
	Radium	x	x	x	x	x	x	x	x	x	x	x	x	12
Field Parameters	Groundwater Elevation	x	x	x	x	x	x	x	x	x	x	x		11
	Well Depth	x	x	x	x	x	x	x	x	x	x	x		11
	pH (field)	x	x	x	x	x	x	x	x	x	x	x		11
	Specific Conductance	x	x	x	x	x	x	x	x	x	x	x		11
	Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x		11
	ORP	x	x	x	x	x	x	x	x	x	x	x		11
	Temperature	x	x	x	x	x	x	x	x	x	x	x		11
	Turbidity	x	x	x	x	x	x	x	x	x	x	x		11
	Color	x	x	x	x	x	x	x	x	x	x	x		11
	Odor	x	x	x	x	x	x	x	x	x	x	x		11

Notes: All samples are unfiltered (total).

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TestAmerica
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310-152684 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project: Burlington

Receipt Information

Date/Time Received: DATE 4-4-19 TIME 1800 Received By: LAB

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID: EZ8

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 1 of 3

Cooler Custody Seals Present? ☒ Yes ☐ No *If yes:* Cooler custody seals intact? ☒ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): +0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.7 Corrected Temp (°C): 1.7

• **Sample Container Temperature**

Container type(s) used:	CONTAINER 1		CONTAINER 2	
Uncorrected Temp (°C):	TEMP 1	TEMP 2	Corrected Temp (°C): TEMP 1	TEMP 2

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Place COC scanning label here
214

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project: Burlington

Receipt Information

Date/Time Received: DATE 4-4-19 TIME 1800 Received By: LAB

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 2 of 3

Cooler Custody Seals Present? ☒ Yes ☐ No *If yes:* Cooler custody seals intact? ☒ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): +0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 3.8 Corrected Temp (°C): 3.8

• **Sample Container Temperature**

Container type(s) used:	CONTAINER 1		CONTAINER 2	
Uncorrected Temp (°C):	TEMP 1	TEMP 2	Corrected Temp (°C):	TEMP 1	TEMP 2

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Place COC scanning label here
214

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project: Burlington

Receipt Information

Date/Time Received: DATE 4-4-19 TIME 1800 Received By: LAB

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID: AA - 18
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 3 of 3
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): +0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.2 Corrected Temp (°C): 4.2

• **Sample Container Temperature**

Container type(s) used:	CONTAINER 1		CONTAINER 2	
Uncorrected Temp (°C):	TEMP 1	TEMP 2	Corrected Temp (°C):	TEMP 1 / TEMP 2

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

2 1L Nitric, 1 PL 250 Nitric + 1 PL500NT rcvd empty

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613

Phone 319-277-2401 or 800-750-2401
Fax 319-277-2425

TestAmerica Des Moines SC
214

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring ____

Client Name: SCS Engineers Client #: ____
Address: 8450 Hickman Rd Suite 20
City/State/Zip Code: Clive IA
Project Manager: ____
Email Address: ____
Telephone Number: ____ Fax: ____
Sampler Name: (Print Name) Nick Schemmel
Sampler Signature: ____

Project Name: Burlington
Project #: 25216066
Site/Location ID: Burlington State: IA
Report To: ____
Invoice To: ____
Quote #: ____ PO#: ____

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: ____
Fax Results: Y N
Email Results: Y N

Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify, Other
Preservation & # of Containers: HNO_3, HCl, NaOH, H_2SO_4, Methanol, None, Other (Specify)
Analyze For: Metals, pH, TDS, Chloride/Fluoride/SO4, Radium 226+228

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: ____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Metals	pH	TDS	Chloride/Fluoride/SO4	Radium 226+228	REMARKS
MW 301	4.3.19	1420	G		GW	3					1		X	X	X	X	X	
MW 302		1522				3					1		X	X	X	X	X	
MW 303		1602				3					1		X	X	X	X	X	
MW 304		1700				3					1		X	X	X	X	X	
MW 305		1316				3					1		X	X	X	X	X	
MW 306		1122				3					1		X	X	X	X	X	
MW 307		1205				3					1		X	X	X	X	X	
MW 308		1033				3					1		X	X	X	X	X	
MW 309	4.4.19	1033				3					1		X	X	X	X	X	

Special Instructions:

LABORATORY COMMENTS:

Relinquished By: Nick Schemmel	Date: 4.4.19	Time:	Received By:	Date: 4/4/19	Time: 14:59
Relinquished By:	Date:	Time:	Received By: Lindsay Bindl	Date: 4/4/19	Time: 1800
Relinquished By:	Date: 4.4.19	Time:	Received By:	Date:	Time:

TAL-0033 (0708)

Page ____ of ____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613

Phone 319-277-2401 or 800-750-2401
Fax 319-277-2425

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

TestAmerica Des Moines 30
214

Client Name: SCS Engineers Client #: _____
Address: 8450 Hickman Rd Suite 20 Project Name: Burlington
City/State/Zip Code: Clive IA Project #: 25216066
Project Manager: _____ Site/Location ID: Burlington State: IA
Email Address: _____ Report To: _____
Telephone Number: _____ Fax: _____ Invoice To: _____
Sampler Name: (Print Name) Nick Schemmel Quote #: _____ PO#: _____
Sampler Signature:

TAT
___ Standard
___ Rush (surcharges may apply)

Date Needed: _____

Fax Results: Y N
Email Results: Y N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify, Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: Metals	pH	TDS	Chloride/Fluoride/SO4	Radium 226+228	REMARKS
MW 310	4.4.19	0850	G		GW	3					1		1	X	X	X	X	
MW 311	↓	0934	↓		↓	3					1		X	X	X	X	X	
Field Blank	4.3.19	1325	↓		↓	3					1		X	X	X	X	X	

QC Deliverables
___ None
___ Level 2 *(Batch QC)*
___ Level 3
___ Level 4
Other: _____

Special Instructions:

LABORATORY COMMENTS:

Relinquished By: Nick Schemmel	Date: 4.4.19	Time:	Received By:	Date: 4/4/19	Time: 14:59
Relinquished By:	Date:	Time:	Received By: Lindsay Brolet	Date: 4.4.19	Time: 1500
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAL-0033 (0708)

Page _____ of _____

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
MW 301	310-152684-A-1	Plastic 250ml - with Nitric Acid	<2		
MW 301	310-152684-C-1	Plastic 1 liter - Nitric Acid	<2		
MW 301	310-152684-D-1	Plastic 1 liter - Nitric Acid	<2		
MW 302	310-152684-A-2	Plastic 250ml - with Nitric Acid	<2		
MW 302	310-152684-C-2	Plastic 1 liter - Nitric Acid	<2		
MW 302	310-152684-D-2	Plastic 1 liter - Nitric Acid	<2		
MW 303	310-152684-A-3	Plastic 250ml - with Nitric Acid	<2		
MW 303	310-152684-C-3	Plastic 1 liter - Nitric Acid	<2		
MW 303	310-152684-D-3	Plastic 1 liter - Nitric Acid	<2		
MW 304	310-152684-A-4	Plastic 250ml - with Nitric Acid	<2		
MW 304	310-152684-C-4	Plastic 1 liter - Nitric Acid	<2		
MW 304	310-152684-D-4	Plastic 1 liter - Nitric Acid	<2		
MW 305	310-152684-A-5	Plastic 250ml - with Nitric Acid	<2		
MW 305	310-152684-C-5	Plastic 1 liter - Nitric Acid	<2		
MW 305	310-152684-D-5	Plastic 1 liter - Nitric Acid	<2		
MW 306	310-152684-A-6	Plastic 250ml - with Nitric Acid	<2		
MW 306	310-152684-C-6	Plastic 1 liter - Nitric Acid	<2		
MW 306	310-152684-D-6	Plastic 1 liter - Nitric Acid	<2		
MW 307	310-152684-A-7	Plastic 250ml - with Nitric Acid	<2		
MW 307	310-152684-C-7	Plastic 1 liter - Nitric Acid	<2		
MW 307	310-152684-D-7	Plastic 1 liter - Nitric Acid	<2		
MW 308	310-152684-A-8	Plastic 250ml - with Nitric Acid	<2		
MW 308	310-152684-C-8	Plastic 1 liter - Nitric Acid	<2		
MW 308	310-152684-D-8	Plastic 1 liter - Nitric Acid	<2		
MW 309	310-152684-A-9	Plastic 250ml - with Nitric Acid	<2		
MW 309	310-152684-C-9	Plastic 1 liter - Nitric Acid	<2		
MW 309	310-152684-D-9	Plastic 1 liter - Nitric Acid	<2		
MW 310	310-152684-A-10	Plastic 250ml - with Nitric Acid	<2		
MW 310	310-152684-C-10	Plastic 1 liter - Nitric Acid	<2		
MW 310	310-152684-D-10	Plastic 1 liter - Nitric Acid	<2		
MW 311	310-152684-A-11	Plastic 250ml - with Nitric Acid	<2		
MW 311	310-152684-C-11	Plastic 1 liter - Nitric Acid	<2		
MW 311	310-152684-D-11	Plastic 1 liter - Nitric Acid	<2		
Field Blank	310-152684-A-12	Plastic 250ml - with Nitric Acid	<2		
Field Blank	310-152684-C-12	Plastic 1 liter - Nitric Acid	<2		
Field Blank	310-152684-D-12	Plastic 1 liter - Nitric Acid	<2		

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #

Eurofins TestAmerica, Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-16049.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandie.fredrick@testamericainc.com	State of Origin: Iowa	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): IA Rad Material License - Iowa; State Program - Iowa		Job #: 310-152684-2
Address: 13715 Rider Trail North,	Due Date Requested: 5/2/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Burlington - 25216066	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226_228GFPC_P	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW 310 (310-152684-10)	4/4/19	08:50 Central		Water			X	X	X	2	
MW 311 (310-152684-11)	4/4/19	09:34 Central		Water			X	X	X	2	
Field Blank (310-152684-12)	4/3/19	13:25 Central		Water			X	X	X	2	

310-152684 Chain of Custody

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	TDK	4/5/19 1631		Michael Hum	4-12-19 08:20	TA STL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-16049.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandie.fredrick@testamericainc.com	State of Origin: Iowa	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): IA Rad Material License - Iowa, State Program - Iowa		Job #: 310-152684-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/2/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Burlington - 25216066	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226_228GFPC_P	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW 301 (310-152684-1)	4/3/19	14:20 Central		Water			X	X	X	2	
MW 302 (310-152684-2)	4/3/19	15:22 Central		Water			X	X	X	2	
MW 303 (310-152684-3)	4/3/19	16:02 Central		Water			X	X	X	2	
MW 304 (310-152684-4)	4/3/19	17:00 Central		Water			X	X	X	2	
MW 305 (310-152684-5)	4/3/19	13:16 Central		Water			X	X	X	2	
MW 306 (310-152684-6)	4/3/19	11:22 Central		Water			X	X	X	2	
MW 307 (310-152684-7)	4/3/19	12:05 Central		Water			X	X	X	2	
MW 308 (310-152684-8)	4/3/19	10:33 Central		Water			X	X	X	2	
MW 309 (310-152684-9)	4/4/19	10:33 Central		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/5/19 1617		Michael Hess	4-6-19 0820	TA SR
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-152684-2
SDG Number: 25216066

Login Number: 152684
List Number: 1
Creator: Bovy, Lorrainna L

List Source: Eurofins TestAmerica, Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-152684-2
SDG Number: 25216066

Login Number: 152684
List Number: 2
Creator: Hellm, Michael

List Source: Eurofins TestAmerica, St. Louis
List Creation: 04/08/19 06:33 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Method: 903.0 - Radium-226 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba Carrier (40-110)
310-152684-1	MW 301	101
310-152684-2	MW 302	93.8
310-152684-3	MW 303	100
310-152684-4	MW 304	97.5
310-152684-5	MW 305	91.0
310-152684-6	MW 306	99.2
310-152684-7	MW 307	94.9
310-152684-8	MW 308	98.9
310-152684-9	MW 309	98.6
310-152684-10	MW 310	100
310-152684-11	MW 311	100
310-152684-12	Field Blank	93.8

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba Carrier (40-110)
LCS 160-424079/1-A	Lab Control Sample	110
LCS 160-424949/1-A	Lab Control Sample	101
LCSD 160-424079/2-A	Lab Control Sample Dup	106
LCSD 160-424949/2-A	Lab Control Sample Dup	103
MB 160-424079/23-A	Method Blank	104
MB 160-424949/23-A	Method Blank	109

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Y Carrier (40-110)
310-152684-1	MW 301	101	80.0
310-152684-2	MW 302	93.8	80.4
310-152684-3	MW 303	100	73.3
310-152684-4	MW 304	97.5	76.6
310-152684-5	MW 305	91.0	75.1
310-152684-6	MW 306	99.2	79.3
310-152684-7	MW 307	94.9	90.8
310-152684-8	MW 308	98.9	92.3
310-152684-9	MW 309	98.6	88.6
310-152684-10	MW 310	100	90.8
310-152684-11	MW 311	100	91.2
310-152684-12	Field Blank	93.8	93.5

Tracer/Carrier Legend

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: Burlington - 25216066

Job ID: 310-152684-2
SDG: 25216066

Ba Carrier = Ba Carrier
Y Carrier = Y Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Y Carrier (40-110)
LCS 160-424232/1-A	Lab Control Sample	110	72.1
LCS 160-424953/1-A	Lab Control Sample	101	97.6
LCSD 160-424232/2-A	Lab Control Sample Dup	106	78.9
LCSD 160-424953/2-A	Lab Control Sample Dup	103	92.3
MB 160-424232/23-A	Method Blank	104	80.0
MB 160-424953/23-A	Method Blank	109	86.4

Tracer/Carrier Legend

Ba Carrier = Ba Carrier
Y Carrier = Y Carrier

A2 Assessment Monitoring – Newly Installed Monitoring Wells, June 2019

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ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-157442-1
Client Project/Site: Alliant Burlington 25218220
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
7/12/2019 4:14:16 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

Job ID: 310-157442-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-157442-1

Comments
FIELD BLANK WATER DATA REVIEW: After review by the lab, the field blank water supplied for this analysis had notable concentrations of chloride, fluoride, sulfate, TDS, Barium, Calcium and Molydenum present. Reanalysis of the remaining service center field blank water confirms the higher levels of analytes present.

Receipt
The samples were received on 6/7/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8º C.

HPLC/IC
Method(s) 9056A: The following sample was diluted due to the nature of the sample matrix: MW313 (310-157442-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-157442-1	Field Blank	Water	06/06/19 08:30	06/07/19 10:00	
310-157442-2	MW-312	Water	06/06/19 09:00	06/07/19 10:00	
310-157442-3	MW-313	Water	06/06/19 11:30	06/07/19 10:00	

Detection Summary

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

Client Sample ID: Field Blank — Lab Sample ID: 310-157442-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	22		1.0	0.29	mg/L	1		9056A	Total/NA
Fluoride	0.84		0.10	0.045	mg/L	1		9056A	Total/NA
Sulfate	38		1.0	0.35	mg/L	1		9056A	Total/NA
Barium	3.3		2.0	0.84	ug/L	1		6020A	Total/NA
Calcium	0.35	J	0.50	0.10	mg/L	1		6020A	Total/NA
Molybdenum	1.2	J	2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	330		30	24	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-312 — Lab Sample ID: 310-157442-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	27		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	1.1		0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	220		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	14		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	160		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	6100		800	440	ug/L	4		6020A	Total/NA
Calcium	67		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.65		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.54		0.50	0.27	ug/L	1		6020A	Total/NA
Lithium	24		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	290		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	540		30	24	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-146.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.12				mg/L	1		Field Sampling	Total/NA
pH, Field	6.99				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	783				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.86				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-313 — Lab Sample ID: 310-157442-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	85		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.33	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	210		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	5.5		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	510		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	7400		800	440	ug/L	4		6020A	Total/NA
Calcium	110		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.41	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	43		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	130		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	700		30	24	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-141.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.07				mg/L	1		Field Sampling	Total/NA
pH, Field	6.94				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1059				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.9				Degrees C	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-313 (Continued)

Lab Sample ID: 310-157442-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Turbidity, Field	7.23				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

Client Sample ID: Field Blank

Date Collected: 06/06/19 08:30
Date Received: 06/07/19 10:00

Lab Sample ID: 310-157442-1

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**22**		1.0	0.29	mg/L			06/10/19 19:18	1
Fluoride	**0.84**		0.10	0.045	mg/L			06/10/19 19:18	1
Sulfate	**38**		1.0	0.35	mg/L			06/10/19 19:18	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		06/10/19 07:54	06/10/19 14:22	1
Arsenic	<0.75		2.0	0.75	ug/L		06/10/19 07:54	06/10/19 14:22	1
Barium	**3.3**		2.0	0.84	ug/L		06/10/19 07:54	06/10/19 14:22	1
Beryllium	<0.27		1.0	0.27	ug/L		06/10/19 07:54	06/10/19 14:22	1
Boron	<110		200	110	ug/L		06/10/19 07:54	06/10/19 14:22	1
Cadmium	<0.077		0.50	0.077	ug/L		06/10/19 07:54	06/10/19 14:22	1
Calcium	**0.35**	**J**	0.50	0.10	mg/L		06/10/19 07:54	06/10/19 14:22	1
Chromium	<0.98		5.0	0.98	ug/L		06/10/19 07:54	06/10/19 14:22	1
Cobalt	<0.091		0.50	0.091	ug/L		06/10/19 07:54	06/10/19 14:22	1
Lead	<0.27		0.50	0.27	ug/L		06/10/19 07:54	06/10/19 14:22	1
Lithium	<2.7		10	2.7	ug/L		06/10/19 07:54	06/10/19 14:22	1
Molybdenum	**1.2**	**J**	2.0	1.1	ug/L		06/10/19 07:54	06/10/19 14:22	1
Selenium	<1.0		5.0	1.0	ug/L		06/10/19 07:54	06/10/19 14:22	1
Thallium	<0.27		1.0	0.27	ug/L		06/10/19 07:54	06/10/19 14:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		06/10/19 08:32	06/10/19 13:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**330**		30	24	mg/L			06/07/19 11:09	1
pH	**7.7**	**HF**	0.1	0.1	SU			06/07/19 21:50	1

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

Client Sample ID: MW-312

Date Collected: 06/06/19 09:00
Date Received: 06/07/19 10:00

Lab Sample ID: 310-157442-2

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**27**		5.0	1.5	mg/L			06/10/19 20:05	5
Fluoride	**1.1**		0.50	0.23	mg/L			06/10/19 20:05	5
Sulfate	**220**		5.0	1.8	mg/L			06/10/19 20:05	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		06/10/19 07:54	06/10/19 14:36	1
Arsenic	**14**		2.0	0.75	ug/L		06/10/19 07:54	06/10/19 14:36	1
Barium	**160**		2.0	0.84	ug/L		06/10/19 07:54	06/10/19 14:36	1
Beryllium	<0.27		1.0	0.27	ug/L		06/10/19 07:54	06/10/19 14:36	1
Boron	**6100**		800	440	ug/L		06/10/19 07:54	06/10/19 14:43	4
Cadmium	<0.077		0.50	0.077	ug/L		06/10/19 07:54	06/10/19 14:36	1
Calcium	**67**		0.50	0.10	mg/L		06/10/19 07:54	06/10/19 14:36	1
Chromium	<0.98		5.0	0.98	ug/L		06/10/19 07:54	06/10/19 14:36	1
Cobalt	**0.65**		0.50	0.091	ug/L		06/10/19 07:54	06/10/19 14:36	1
Lead	**0.54**		0.50	0.27	ug/L		06/10/19 07:54	06/10/19 14:36	1
Lithium	**24**		10	2.7	ug/L		06/10/19 07:54	06/10/19 14:36	1
Molybdenum	**290**		2.0	1.1	ug/L		06/10/19 07:54	06/10/19 14:36	1
Selenium	<1.0		5.0	1.0	ug/L		06/10/19 07:54	06/10/19 14:36	1
Thallium	<0.27		1.0	0.27	ug/L		06/10/19 07:54	06/10/19 14:36	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		06/10/19 08:32	06/10/19 13:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**540**		30	24	mg/L			06/07/19 11:09	1
pH	**7.5**	**HF**	0.1	0.1	SU			06/07/19 21:54	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-146.4**				millivolts			06/06/19 09:00	1
Oxygen, Dissolved, Client Supplied	**0.12**				mg/L			06/06/19 09:00	1
pH, Field	**6.99**				SU			06/06/19 09:00	1
Specific Conductance, Field	**783**				umhos/cm			06/06/19 09:00	1
Temperature, Field	**14.4**				Degrees C			06/06/19 09:00	1
Turbidity, Field	**2.86**				NTU			06/06/19 09:00	1

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

Client Sample ID: MW-313

Date Collected: 06/06/19 11:30
Date Received: 06/07/19 10:00

Lab Sample ID: 310-157442-3

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**85**		5.0	1.5	mg/L			06/10/19 20:20	5
Fluoride	**0.33**	**J**	0.50	0.23	mg/L			06/10/19 20:20	5
Sulfate	**210**		5.0	1.8	mg/L			06/10/19 20:20	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		06/10/19 07:54	06/10/19 14:39	1
Arsenic	**5.5**		2.0	0.75	ug/L		06/10/19 07:54	06/10/19 14:39	1
Barium	**510**		2.0	0.84	ug/L		06/10/19 07:54	06/10/19 14:39	1
Beryllium	<0.27		1.0	0.27	ug/L		06/10/19 07:54	06/10/19 14:39	1
Boron	**7400**		800	440	ug/L		06/10/19 07:54	06/10/19 14:46	4
Cadmium	<0.077		0.50	0.077	ug/L		06/10/19 07:54	06/10/19 14:39	1
Calcium	**110**		0.50	0.10	mg/L		06/10/19 07:54	06/10/19 14:39	1
Chromium	<0.98		5.0	0.98	ug/L		06/10/19 07:54	06/10/19 14:39	1
Cobalt	**0.41**	**J**	0.50	0.091	ug/L		06/10/19 07:54	06/10/19 14:39	1
Lead	<0.27		0.50	0.27	ug/L		06/10/19 07:54	06/10/19 14:39	1
Lithium	**43**		10	2.7	ug/L		06/10/19 07:54	06/10/19 14:39	1
Molybdenum	**130**		2.0	1.1	ug/L		06/10/19 07:54	06/10/19 14:39	1
Selenium	<1.0		5.0	1.0	ug/L		06/10/19 07:54	06/10/19 14:39	1
Thallium	<0.27		1.0	0.27	ug/L		06/10/19 07:54	06/10/19 14:39	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		06/10/19 08:32	06/10/19 13:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**700**		30	24	mg/L			06/07/19 11:09	1
pH	**7.4**	**HF**	0.1	0.1	SU			06/07/19 21:58	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-141.6**				millivolts			06/06/19 11:30	1
Oxygen, Dissolved, Client Supplied	**0.07**				mg/L			06/06/19 11:30	1
pH, Field	**6.94**				SU			06/06/19 11:30	1
Specific Conductance, Field	**1059**				umhos/cm			06/06/19 11:30	1
Temperature, Field	**14.9**				Degrees C			06/06/19 11:30	1
Turbidity, Field	**7.23**				NTU			06/06/19 11:30	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-242591/3
Matrix: Water
Analysis Batch: 242591

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.29		1.0	0.29	mg/L			06/10/19 11:27	1
Fluoride	<0.045		0.10	0.045	mg/L			06/10/19 11:27	1
Sulfate	<0.35		1.0	0.35	mg/L			06/10/19 11:27	1

Lab Sample ID: LCS 310-242591/4
Matrix: Water
Analysis Batch: 242591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.3		mg/L		103	90 - 110
Fluoride	2.00	2.13		mg/L		107	90 - 110
Sulfate	10.0	10.5		mg/L		105	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-242330/1-A
Matrix: Water
Analysis Batch: 242461

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 242330

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		06/10/19 07:54	06/10/19 14:16	1
Arsenic	<0.75		2.0	0.75	ug/L		06/10/19 07:54	06/10/19 14:16	1
Barium	<0.84		2.0	0.84	ug/L		06/10/19 07:54	06/10/19 14:16	1
Beryllium	<0.27		1.0	0.27	ug/L		06/10/19 07:54	06/10/19 14:16	1
Boron	<110		200	110	ug/L		06/10/19 07:54	06/10/19 14:16	1
Cadmium	<0.077		0.50	0.077	ug/L		06/10/19 07:54	06/10/19 14:16	1
Calcium	<0.10		0.50	0.10	mg/L		06/10/19 07:54	06/10/19 14:16	1
Chromium	<0.98		5.0	0.98	ug/L		06/10/19 07:54	06/10/19 14:16	1
Cobalt	<0.091		0.50	0.091	ug/L		06/10/19 07:54	06/10/19 14:16	1
Lead	<0.27		0.50	0.27	ug/L		06/10/19 07:54	06/10/19 14:16	1
Lithium	<2.7		10	2.7	ug/L		06/10/19 07:54	06/10/19 14:16	1
Molybdenum	<1.1		2.0	1.1	ug/L		06/10/19 07:54	06/10/19 14:16	1
Selenium	<1.0		5.0	1.0	ug/L		06/10/19 07:54	06/10/19 14:16	1
Thallium	<0.27		1.0	0.27	ug/L		06/10/19 07:54	06/10/19 14:16	1

Lab Sample ID: LCS 310-242330/2-A
Matrix: Water
Analysis Batch: 242461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 242330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	18.7		ug/L		94	80 - 120
Arsenic	40.0	38.8		ug/L		97	80 - 120
Barium	40.0	40.6		ug/L		101	80 - 120
Beryllium	20.0	19.1		ug/L		95	80 - 120
Boron	880	815		ug/L		93	80 - 120
Cadmium	20.0	20.0		ug/L		100	80 - 120
Calcium	2.00	2.08		mg/L		104	80 - 120
Chromium	40.0	37.4		ug/L		94	80 - 120
Cobalt	20.0	19.2		ug/L		96	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 310-242330/2-A
Matrix: Water
Analysis Batch: 242461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 242330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	20.0	19.1		ug/L		95	80 - 120
Lithium	100	94.9		ug/L		95	80 - 120
Molybdenum	40.0	38.1		ug/L		95	80 - 120
Selenium	40.0	38.0		ug/L		95	80 - 120
Thallium	16.0	15.1		ug/L		94	80 - 120

Lab Sample ID: 310-157442-1 MS
Matrix: Water
Analysis Batch: 242461

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 242330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.53		20.0	20.2		ug/L		101	75 - 125
Arsenic	<0.75		40.0	43.1		ug/L		108	75 - 125
Barium	3.3		40.0	47.1		ug/L		109	75 - 125
Beryllium	<0.27		20.0	20.7		ug/L		103	75 - 125
Boron	<110		880	948		ug/L		108	75 - 125
Cadmium	<0.077		20.0	21.1		ug/L		106	75 - 125
Calcium	0.35	J	2.00	2.51		mg/L		108	75 - 125
Chromium	<0.98		40.0	41.0		ug/L		103	75 - 125
Cobalt	<0.091		20.0	21.0		ug/L		105	75 - 125
Lead	<0.27		20.0	20.2		ug/L		101	75 - 125
Lithium	<2.7		100	103		ug/L		103	75 - 125
Molybdenum	1.2	J	40.0	43.5		ug/L		106	75 - 125
Selenium	<1.0		40.0	41.3		ug/L		103	75 - 125
Thallium	<0.27		16.0	15.8		ug/L		99	75 - 125

Lab Sample ID: 310-157442-1 MSD
Matrix: Water
Analysis Batch: 242461

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 242330

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.53		20.0	21.3		ug/L		106	75 - 125	5	20
Arsenic	<0.75		40.0	45.4		ug/L		113	75 - 125	5	20
Barium	3.3		40.0	48.9		ug/L		114	75 - 125	4	20
Beryllium	<0.27		20.0	21.5		ug/L		108	75 - 125	4	20
Boron	<110		880	1010		ug/L		115	75 - 125	6	20
Cadmium	<0.077		20.0	22.4		ug/L		112	75 - 125	6	20
Calcium	0.35	J	2.00	2.68		mg/L		116	75 - 125	6	20
Chromium	<0.98		40.0	43.7		ug/L		109	75 - 125	6	20
Cobalt	<0.091		20.0	22.1		ug/L		111	75 - 125	5	20
Lead	<0.27		20.0	21.3		ug/L		106	75 - 125	5	20
Lithium	<2.7		100	110		ug/L		110	75 - 125	6	20
Molybdenum	1.2	J	40.0	46.0		ug/L		112	75 - 125	6	20
Selenium	<1.0		40.0	44.2		ug/L		110	75 - 125	7	20
Thallium	<0.27		16.0	16.4		ug/L		103	75 - 125	4	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-242147/1-A
Matrix: Water
Analysis Batch: 242440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 242147

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		06/07/19 09:40	06/10/19 13:16	1

Lab Sample ID: LCS 310-242147/2-A
Matrix: Water
Analysis Batch: 242440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 242147

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.74		ug/L		104	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 310-242168/1
Matrix: Water
Analysis Batch: 242168

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<24		30	24	mg/L			06/07/19 11:09	1

Lab Sample ID: LCS 310-242168/2
Matrix: Water
Analysis Batch: 242168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-242253/1
Matrix: Water
Analysis Batch: 242253

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	98 - 102

QC Association Summary

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

HPLC/IC

Analysis Batch: 242591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-157442-1	Field Blank	Total/NA	Water	9056A	
310-157442-2	MW-312	Total/NA	Water	9056A	
310-157442-3	MW-313	Total/NA	Water	9056A	
MB 310-242591/3	Method Blank	Total/NA	Water	9056A	
LCS 310-242591/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 242147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-157442-1	Field Blank	Total/NA	Water	7470A	
310-157442-2	MW-312	Total/NA	Water	7470A	
310-157442-3	MW-313	Total/NA	Water	7470A	
MB 310-242147/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-242147/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 242330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-157442-1	Field Blank	Total/NA	Water	3010A	
310-157442-2	MW-312	Total/NA	Water	3010A	
310-157442-3	MW-313	Total/NA	Water	3010A	
MB 310-242330/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-242330/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-157442-1 MS	Field Blank	Total/NA	Water	3010A	
310-157442-1 MSD	Field Blank	Total/NA	Water	3010A	

Analysis Batch: 242440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-157442-1	Field Blank	Total/NA	Water	7470A	242147
310-157442-2	MW-312	Total/NA	Water	7470A	242147
310-157442-3	MW-313	Total/NA	Water	7470A	242147
MB 310-242147/1-A	Method Blank	Total/NA	Water	7470A	242147
LCS 310-242147/2-A	Lab Control Sample	Total/NA	Water	7470A	242147

Analysis Batch: 242461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-157442-1	Field Blank	Total/NA	Water	6020A	242330
310-157442-2	MW-312	Total/NA	Water	6020A	242330
310-157442-2	MW-312	Total/NA	Water	6020A	242330
310-157442-3	MW-313	Total/NA	Water	6020A	242330
310-157442-3	MW-313	Total/NA	Water	6020A	242330
MB 310-242330/1-A	Method Blank	Total/NA	Water	6020A	242330
LCS 310-242330/2-A	Lab Control Sample	Total/NA	Water	6020A	242330
310-157442-1 MS	Field Blank	Total/NA	Water	6020A	242330
310-157442-1 MSD	Field Blank	Total/NA	Water	6020A	242330

General Chemistry

Analysis Batch: 242168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-157442-1	Field Blank	Total/NA	Water	SM 2540C	
310-157442-2	MW-312	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 242168 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-157442-3	MW-313	Total/NA	Water	SM 2540C	
MB 310-242168/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-242168/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 242253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-157442-1	Field Blank	Total/NA	Water	SM 4500 H+ B	
310-157442-2	MW-312	Total/NA	Water	SM 4500 H+ B	
310-157442-3	MW-313	Total/NA	Water	SM 4500 H+ B	
LCS 310-242253/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Field Service / Mobile Lab

Analysis Batch: 242586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-157442-2	MW-312	Total/NA	Water	Field Sampling	
310-157442-3	MW-313	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

Client Sample ID: Field Blank

Lab Sample ID: 310-157442-1
Date Collected: 06/06/19 08:30
Matrix: Water
Date Received: 06/07/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	242591	06/10/19 19:18	MLU	TAL CF
Total/NA	Prep	3010A			242330	06/10/19 07:54	HED	TAL CF
Total/NA	Analysis	6020A		1	242461	06/10/19 14:22	SAD	TAL CF
Total/NA	Prep	7470A			242147	06/10/19 08:32	JNR	TAL CF
Total/NA	Analysis	7470A		1	242440	06/10/19 13:44	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	242168	06/07/19 11:09	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	242253	06/07/19 21:50	JMH	TAL CF

Client Sample ID: MW-312

Lab Sample ID: 310-157442-2
Date Collected: 06/06/19 09:00
Matrix: Water
Date Received: 06/07/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	242591	06/10/19 20:05	MLU	TAL CF
Total/NA	Prep	3010A			242330	06/10/19 07:54	HED	TAL CF
Total/NA	Analysis	6020A		1	242461	06/10/19 14:36	SAD	TAL CF
Total/NA	Prep	3010A			242330	06/10/19 07:54	HED	TAL CF
Total/NA	Analysis	6020A		4	242461	06/10/19 14:43	SAD	TAL CF
Total/NA	Prep	7470A			242147	06/10/19 08:32	JNR	TAL CF
Total/NA	Analysis	7470A		1	242440	06/10/19 13:46	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	242168	06/07/19 11:09	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	242253	06/07/19 21:54	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	242586	06/06/19 09:00	EAR	TAL CF

Client Sample ID: MW-313

Lab Sample ID: 310-157442-3
Date Collected: 06/06/19 11:30
Matrix: Water
Date Received: 06/07/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	242591	06/10/19 20:20	MLU	TAL CF
Total/NA	Prep	3010A			242330	06/10/19 07:54	HED	TAL CF
Total/NA	Analysis	6020A		1	242461	06/10/19 14:39	SAD	TAL CF
Total/NA	Prep	3010A			242330	06/10/19 07:54	HED	TAL CF
Total/NA	Analysis	6020A		4	242461	06/10/19 14:46	SAD	TAL CF
Total/NA	Prep	7470A			242147	06/10/19 08:32	JNR	TAL CF
Total/NA	Analysis	7470A		1	242440	06/10/19 13:48	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	242168	06/07/19 11:09	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	242253	06/07/19 21:58	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	242586	06/06/19 11:30	EAR	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-157442-1
Project/Site: Alliant Burlington 25218220

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Iowa	State Program	7	007	12-01-19

Method Summary

Client: SCS Engineers
Project/Site: Alliant Burlington 25218220

Job ID: 310-157442-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Table 3. Parameters for Groundwater Monitoring to meet Federal Requirements

Appendix III	Boron
	Calcium
	Chloride
	Fluoride
	pH
	Sulfate
	TDS
Appendix IV	Antimony
	Arsenic
	Barium
	Beryllium
	Cadmium
	Chromium
	Cobalt
	Fluoride
	Lead
	Lithium
	Mercury
	Molybdenum
	Selenium
	Thallium
	Radium

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

310-157442 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Menomonee Falls STATE WI | Project: Alliant Burlington

Receipt Information

Date/Time Received: DATE 6-7-19 TIME 1000 | Received By: LAB

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes ☒ No	*If yes:* Cooler # ____ of ____
Cooler Custody Seals Present?	☐ Yes ☒ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 1 | Correction Factor (°C): -0.1

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 3.9 | Corrected Temp (°C): 3.8

• Sample Container Temperature

Container type(s) used:	CONTAINER 1	CONTAINER 2
Uncorrected Temp (°C):	TEMP 1 / TEMP 2	
Corrected Temp (°C):	TEMP 1 / TEMP 2	

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Document: CF-LG-WI-002
Revision: 24
Date: 03/07/2019

TestAmerica-Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

Eurofins TestAmerica, Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins | Environment Testing TestAmerica

#40590

Client Information	Sampler: Zach Watson	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-40460-13155.1
Client Contact: Gary Sterkel	Phone: 262 271 3744	E-Mail: sandie.fredrick@testamericainc.com		Page: Page 1 of 1
Company: SCS Engineers				Job #:
Address: N84 W13540 Leon Road	Due Date Requested:		Analysis Requested	Preservation Codes:
City: Menomonee Falls	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: WI, 53051	PO #: 25218220			
Phone:	WO #:			Other:
Email: gsterkel@scsengineers.com				
Project Name: Alliant Burlington 25218220	Project #: 31011020			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A, 7470A	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	D		
MW391 Field Blank	6.6.19	830	G	Water			X	X	X	X		RUSH!
MW312	6.6.19	900	↓	Water			X	X	X	X		RUSH!
MW313	6.6.19	1130	↓	Water			X	X	X	X		RUSH!

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6.6.19 1200	SCS	Zachary Bindert	6.7.19 1000	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

6/7/2019

Login Container Summary Report

310-157442

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
Field Blank	310-157442-A-1	Plastic 250ml - with Nitric Acid	<2	_____	_____
Field Blank	310-157442-C-1	Plastic 1 liter - Nitric Acid	<2	_____	_____
Field Blank	310-157442-D-1	Plastic 1 liter - Nitric Acid	<2	_____	_____
MW312	310-157442-A-2	Plastic 250ml - with Nitric Acid	<2	_____	_____
MW312	310-157442-C-2	Plastic 1 liter - Nitric Acid	<2	_____	_____
MW312	310-157442-D-2	Plastic 1 liter - Nitric Acid	<2	_____	_____
MW313	310-157442-A-3	Plastic 250ml - with Nitric Acid	<2	_____	_____
MW313	310-157442-C-3	Plastic 1 liter - Nitric Acid	<2	_____	_____
MW313	310-157442-D-3	Plastic 1 liter - Nitric Acid	<2	_____	_____

Page 1 of 1

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-157442-1

Login Number: 157442
List Number: 1
Creator: Bindert, Lindsay A

List Source: Eurofins TestAmerica, Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

A3 Assessment Monitoring, October 2019

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ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-167314-1
Client Project/Site: Burlington Gen Station 25216066

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandie Fredrick

Authorized for release by:
10/28/2019 9:33:36 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Job ID: 310-167314-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-167314-1

Comments
No additional comments.

Receipt
The samples were received on 10/12/2019 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.1º C, 0.5º C and 1.3º C.

HPLC/IC
Methods 300.0, 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-167314-1), MW-302 (310-167314-2), MW-303 (310-167314-3), MW-304 (310-167314-4), MW-305 (310-167314-5), MW-306 (310-167314-6), MW-307 (310-167314-7), MW-308 (310-167314-8), MW-309 (310-167314-9), MW-310 (310-167314-10), MW-311 (310-167314-11), MW-312 (310-167314-12) and MW-313 (310-167314-13). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 6020A: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following samples: MW-309 (310-167314-9), MW-312 (310-167314-12) and MW-313 (310-167314-13).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-167314-1	MW-301	Water	10/10/19 11:02	10/12/19 09:45	
310-167314-2	MW-302	Water	10/10/19 12:12	10/12/19 09:45	
310-167314-3	MW-303	Water	10/10/19 13:00	10/12/19 09:45	
310-167314-4	MW-304	Water	10/10/19 13:44	10/12/19 09:45	
310-167314-5	MW-305	Water	10/11/19 10:30	10/12/19 09:45	
310-167314-6	MW-306	Water	10/11/19 11:16	10/12/19 09:45	
310-167314-7	MW-307	Water	10/11/19 15:06	10/12/19 09:45	
310-167314-8	MW-308	Water	10/10/19 10:08	10/12/19 09:45	
310-167314-9	MW-309	Water	10/11/19 09:44	10/12/19 09:45	
310-167314-10	MW-310	Water	10/11/19 08:02	10/12/19 09:45	
310-167314-11	MW-311	Water	10/11/19 08:54	10/12/19 09:45	
310-167314-12	MW-312	Water	10/10/19 15:22	10/12/19 09:45	
310-167314-13	MW-313	Water	10/10/19 14:36	10/12/19 09:45	
310-167314-14	Field Blank	Water	10/10/19 23:59	10/12/19 09:45	

Detection Summary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-301 — Lab Sample ID: 310-167314-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	20		5.0	1.5	mg/L	5		9056A	Total/NA
Sulfate	390		20	7.0	mg/L	20		9056A	Total/NA
Arsenic	40		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	320		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	8100		800	440	ug/L	4		6020A	Total/NA
Calcium	130		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.18	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	26		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	130		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	690		150	120	mg/L	1		SM 2540C	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-162.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.23				mg/L	1		Field Sampling	Total/NA
pH, Field	6.85				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1063				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	12.55				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302 — Lab Sample ID: 310-167314-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		5.0	1.5	mg/L	5		9056A	Total/NA
Sulfate	510		20	7.0	mg/L	20		9056A	Total/NA
Arsenic	73		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	260		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	11000		800	440	ug/L	4		6020A	Total/NA
Calcium	220		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.23	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	57		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	100		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	960		150	120	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-186.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.28				mg/L	1		Field Sampling	Total/NA
pH, Field	7.49				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1249				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.46				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.16				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303 — Lab Sample ID: 310-167314-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16		5.0	1.5	mg/L	5		9056A	Total/NA
Sulfate	84		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	17		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	440		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	21000		2000	1100	ug/L	10		6020A	Total/NA
Calcium	91		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.45	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	46		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	76		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	420		150	120	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-303 (Continued)

Lab Sample ID: 310-167314-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-161.0				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.26				mg/L	1		Field Sampling	Total/NA
pH, Field	7.13				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	767				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.91				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	5.36				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-167314-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	25		5.0	1.5	mg/L	5		9056A	Total/NA
Sulfate	220		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	36		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	210		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	5100		800	440	ug/L	4		6020A	Total/NA
Calcium	140		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.13	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	38		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	47		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	710		150	120	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-157.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.28				mg/L	1		Field Sampling	Total/NA
pH, Field	7.17				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	934				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.64				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.18				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-167314-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	33		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.37	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	8.8		5.0	1.8	mg/L	5		9056A	Total/NA
Barium	180		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	2100		400	220	ug/L	2		6020A	Total/NA
Calcium	90		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.13	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	26		10	2.7	ug/L	1		6020A	Total/NA
Total Dissolved Solids	490		150	120	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-132.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.20				mg/L	1		Field Sampling	Total/NA
pH, Field	7.36				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	795				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.29				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	3.02				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-306 — Lab Sample ID: 310-167314-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	20		5.0	1.5	mg/L	5		9056A	Total/NA
Sulfate	110		5.0	1.8	mg/L	5		9056A	Total/NA
Antimony	1.2		1.0	0.53	ug/L	1		6020A	Total/NA
Arsenic	46		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	14		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	3100		400	220	ug/L	2		6020A	Total/NA
Calcium	38		0.50	0.10	mg/L	1		6020A	Total/NA
Lead	0.44	J	0.50	0.27	ug/L	1		6020A	Total/NA
Lithium	46		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	84		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	290		30	24	mg/L	1		SM 2540C	Total/NA
pH	10.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-165.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.21				mg/L	1		Field Sampling	Total/NA
pH, Field	10.53				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	473				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.28				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.84				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 310-167314-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	19		5.0	1.5	mg/L	5		9056A	Total/NA
Sulfate	130		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	47		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	31		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	3700		400	220	ug/L	2		6020A	Total/NA
Calcium	31		0.50	0.10	mg/L	1		6020A	Total/NA
Lead	0.41	J	0.50	0.27	ug/L	1		6020A	Total/NA
Lithium	48		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	130		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	340		30	24	mg/L	1		SM 2540C	Total/NA
pH	10.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-126.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.24				mg/L	1		Field Sampling	Total/NA
pH, Field	10.14				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	536				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.37				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	3.23				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-308 — Lab Sample ID: 310-167314-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	40		5.0	1.5	mg/L	5		9056A	Total/NA
Sulfate	160		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	72		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	70		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	4500		400	220	ug/L	2		6020A	Total/NA
Calcium	30		0.50	0.10	mg/L	1		6020A	Total/NA
Lithium	52		10	2.7	ug/L	1		6020A	Total/NA
Molybdenum	120		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	400		150	120	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-308 (Continued) — Lab Sample ID: 310-167314-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	9.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-82.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.21				mg/L	1		Field Sampling	Total/NA
pH, Field	9.42				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	671				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.64				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.93				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-309 — Lab Sample ID: 310-167314-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	74		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.29	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	160		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	34		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	180		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	4300		400	220	ug/L	2		6020A	Total/NA
Calcium	68		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.52		0.50	0.091	ug/L	1		6020A	Total/NA
Molybdenum	90		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	610		60	48	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-165.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.21				mg/L	1		Field Sampling	Total/NA
pH, Field	7.19				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1040				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.73				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	8.93				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310 — Lab Sample ID: 310-167314-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	59		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.34	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	51		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	61		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	500		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	380		200	110	ug/L	1		6020A	Total/NA
Calcium	120		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	1.9		0.50	0.091	ug/L	1		6020A	Total/NA
Molybdenum	6.0		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	410		60	48	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-189.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.28				mg/L	1		Field Sampling	Total/NA
pH, Field	6.95				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	961				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.88				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	5.23				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-311 — Lab Sample ID: 310-167314-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	65		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.37	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	130		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	18		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	210		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	2800		200	110	ug/L	1		6020A	Total/NA
Calcium	150		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.27	J	0.50	0.091	ug/L	1		6020A	Total/NA
Molybdenum	15		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	590		60	48	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-163.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.30				mg/L	1		Field Sampling	Total/NA
pH, Field	7.07				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1088				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.19				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	13.4				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-312 — Lab Sample ID: 310-167314-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	25		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.25	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	230		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	15		4.0	1.5	ug/L	2		6020A	Total/NA
Barium	150		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	6600		400	220	ug/L	2		6020A	Total/NA
Cadmium	0.044	J	0.10	0.039	ug/L	1		6020A	Total/NA
Calcium	71		1.0	0.20	mg/L	2		6020A	Total/NA
Cobalt	0.36	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	27		20	5.4	ug/L	2		6020A	Total/NA
Molybdenum	280		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	510		150	120	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-163.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	8.75				mg/L	1		Field Sampling	Total/NA
pH, Field	7.19				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	785				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.56				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-313 — Lab Sample ID: 310-167314-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	51		5.0	1.5	mg/L	5		9056A	Total/NA
Fluoride	0.28	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	210		5.0	1.8	mg/L	5		9056A	Total/NA
Arsenic	6.3		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	490		2.0	0.84	ug/L	1		6020A	Total/NA
Boron	8500		800	440	ug/L	4		6020A	Total/NA
Calcium	120		0.50	0.10	mg/L	1		6020A	Total/NA
Cobalt	0.32	J	0.50	0.091	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-313 (Continued)

Lab Sample ID: 310-167314-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.31	J	0.50	0.27	ug/L	1		6020A	Total/NA
Lithium	62		40	11	ug/L	4		6020A	Total/NA
Molybdenum	110		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	520		150	120	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Oxidation Reduction Potential	-163.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.37				mg/L	1		Field Sampling	Total/NA
pH, Field	7.06				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1007				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.04				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	11.03				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-167314-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	5.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-301

Date Collected: 10/10/19 11:02
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-1

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20**		5.0	1.5	mg/L			10/21/19 12:20	5
Fluoride	<0.23		0.50	0.23	mg/L			10/21/19 12:20	5
Sulfate	**390**		20	7.0	mg/L			10/21/19 17:43	20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 21:50	1
Arsenic	**40**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 21:50	1
Barium	**320**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 21:50	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 21:50	1
Boron	**8100**		800	440	ug/L		10/15/19 07:39	10/17/19 12:37	4
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 21:50	1
Calcium	**130**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 21:50	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 21:50	1
Cobalt	**0.18**	**J**	0.50	0.091	ug/L		10/15/19 07:39	10/16/19 21:50	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 21:50	1
Lithium	**26**		10	2.7	ug/L		10/15/19 07:39	10/16/19 21:50	1
Molybdenum	**130**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 21:50	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 21:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**690**		150	120	mg/L			10/16/19 10:06	1
pH	**7.1**	**HF**	0.1	0.1	SU			10/12/19 12:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-162.9**				millivolts			10/10/19 11:02	1
Oxygen, Dissolved, Client Supplied	**0.23**				mg/L			10/10/19 11:02	1
pH, Field	**6.85**				SU			10/10/19 11:02	1
Specific Conductance, Field	**1063**				umhos/cm			10/10/19 11:02	1
Temperature, Field	**13.9**				Degrees C			10/10/19 11:02	1
Turbidity, Field	**12.55**				NTU			10/10/19 11:02	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-302

Date Collected: 10/10/19 12:12
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-2

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11**		5.0	1.5	mg/L			10/21/19 12:35	5
Fluoride	<0.23		0.50	0.23	mg/L			10/21/19 12:35	5
Sulfate	**510**		20	7.0	mg/L			10/21/19 17:59	20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:17	1
Arsenic	**73**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 22:17	1
Barium	**260**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:17	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 22:17	1
Boron	**11000**		800	440	ug/L		10/15/19 07:39	10/17/19 12:45	4
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:17	1
Calcium	**220**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 22:17	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:17	1
Cobalt	**0.23**	**J**	0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:17	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:17	1
Lithium	**57**		10	2.7	ug/L		10/15/19 07:39	10/16/19 22:17	1
Molybdenum	**100**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:17	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**960**		150	120	mg/L			10/16/19 10:06	1
pH	**7.7**	**HF**	0.1	0.1	SU			10/12/19 11:55	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-186.8**				millivolts			10/10/19 12:12	1
Oxygen, Dissolved, Client Supplied	**0.28**				mg/L			10/10/19 12:12	1
pH, Field	**7.49**				SU			10/10/19 12:12	1
Specific Conductance, Field	**1249**				umhos/cm			10/10/19 12:12	1
Temperature, Field	**14.46**				Degrees C			10/10/19 12:12	1
Turbidity, Field	**1.16**				NTU			10/10/19 12:12	1

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-303

Date Collected: 10/10/19 13:00
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-3

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16**		5.0	1.5	mg/L			10/21/19 12:51	5
Fluoride	<0.23		0.50	0.23	mg/L			10/21/19 12:51	5
Sulfate	**84**		5.0	1.8	mg/L			10/21/19 12:51	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:21	1
Arsenic	**17**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 22:21	1
Barium	**440**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:21	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 22:21	1
Boron	**21000**		2000	1100	ug/L		10/15/19 07:39	10/17/19 12:47	10
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:21	1
Calcium	**91**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 22:21	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:21	1
Cobalt	**0.45**	**J**	0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:21	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:21	1
Lithium	**46**		10	2.7	ug/L		10/15/19 07:39	10/16/19 22:21	1
Molybdenum	**76**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:21	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**420**		150	120	mg/L			10/16/19 10:06	1
pH	**7.4**	**HF**	0.1	0.1	SU			10/12/19 11:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-161.0**				millivolts			10/10/19 13:00	1
Oxygen, Dissolved, Client Supplied	**0.26**				mg/L			10/10/19 13:00	1
pH, Field	**7.13**				SU			10/10/19 13:00	1
Specific Conductance, Field	**767**				umhos/cm			10/10/19 13:00	1
Temperature, Field	**14.91**				Degrees C			10/10/19 13:00	1
Turbidity, Field	**5.36**				NTU			10/10/19 13:00	1

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-304

Date Collected: 10/10/19 13:44
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-4

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25**		5.0	1.5	mg/L			10/21/19 13:06	5
Fluoride	<0.23		0.50	0.23	mg/L			10/21/19 13:06	5
Sulfate	**220**		5.0	1.8	mg/L			10/21/19 13:06	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:24	1
Arsenic	**36**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 22:24	1
Barium	**210**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:24	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 22:24	1
Boron	**5100**		800	440	ug/L		10/15/19 07:39	10/17/19 12:50	4
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:24	1
Calcium	**140**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 22:24	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:24	1
Cobalt	**0.13**	**J**	0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:24	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:24	1
Lithium	**38**		10	2.7	ug/L		10/15/19 07:39	10/16/19 22:24	1
Molybdenum	**47**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:24	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**710**		150	120	mg/L			10/16/19 10:06	1
pH	**7.5**	**HF**	0.1	0.1	SU			10/12/19 11:51	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-157.5**				millivolts			10/10/19 13:44	1
Oxygen, Dissolved, Client Supplied	**0.28**				mg/L			10/10/19 13:44	1
pH, Field	**7.17**				SU			10/10/19 13:44	1
Specific Conductance, Field	**934**				umhos/cm			10/10/19 13:44	1
Temperature, Field	**15.64**				Degrees C			10/10/19 13:44	1
Turbidity, Field	**1.18**				NTU			10/10/19 13:44	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-305

Date Collected: 10/11/19 10:30
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-5

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33**		5.0	1.5	mg/L			10/21/19 13:22	5
Fluoride	**0.37**	**J**	0.50	0.23	mg/L			10/21/19 13:22	5
Sulfate	**8.8**		5.0	1.8	mg/L			10/21/19 13:22	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:28	1
Arsenic	<0.75		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 22:28	1
Barium	**180**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:28	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 22:28	1
Boron	**2100**		400	220	ug/L		10/15/19 07:39	10/17/19 12:53	2
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:28	1
Calcium	**90**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 22:28	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:28	1
Cobalt	**0.13**	**J**	0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:28	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:28	1
Lithium	**26**		10	2.7	ug/L		10/15/19 07:39	10/16/19 22:28	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:28	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**490**		150	120	mg/L			10/16/19 10:06	1
pH	**7.5**	**HF**	0.1	0.1	SU			10/12/19 11:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-132.9**				millivolts			10/11/19 10:30	1
Oxygen, Dissolved, Client Supplied	**0.20**				mg/L			10/11/19 10:30	1
pH, Field	**7.36**				SU			10/11/19 10:30	1
Specific Conductance, Field	**795**				umhos/cm			10/11/19 10:30	1
Temperature, Field	**14.29**				Degrees C			10/11/19 10:30	1
Turbidity, Field	**3.02**				NTU			10/11/19 10:30	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-306

Date Collected: 10/11/19 11:16
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-6

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20**		5.0	1.5	mg/L			10/21/19 13:38	5
Fluoride	<0.23		0.50	0.23	mg/L			10/21/19 13:38	5
Sulfate	**110**		5.0	1.8	mg/L			10/21/19 13:38	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.2**		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:31	1
Arsenic	**46**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 22:31	1
Barium	**14**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:31	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 22:31	1
Boron	**3100**		400	220	ug/L		10/15/19 07:39	10/17/19 12:55	2
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:31	1
Calcium	**38**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 22:31	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:31	1
Cobalt	<0.091		0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:31	1
Lead	**0.44**	**J**	0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:31	1
Lithium	**46**		10	2.7	ug/L		10/15/19 07:39	10/16/19 22:31	1
Molybdenum	**84**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:31	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**290**		30	24	mg/L			10/18/19 11:40	1
pH	**10.5**	**HF**	0.1	0.1	SU			10/12/19 11:48	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-165.1**				millivolts			10/11/19 11:16	1
Oxygen, Dissolved, Client Supplied	**0.21**				mg/L			10/11/19 11:16	1
pH, Field	**10.53**				SU			10/11/19 11:16	1
Specific Conductance, Field	**473**				umhos/cm			10/11/19 11:16	1
Temperature, Field	**14.28**				Degrees C			10/11/19 11:16	1
Turbidity, Field	**1.84**				NTU			10/11/19 11:16	1

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-307

Date Collected: 10/11/19 15:06
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-7

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19**		5.0	1.5	mg/L			10/21/19 14:09	5
Fluoride	<0.23		0.50	0.23	mg/L			10/21/19 14:09	5
Sulfate	**130**		5.0	1.8	mg/L			10/21/19 14:09	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:34	1
Arsenic	**47**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 22:34	1
Barium	**31**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:34	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 22:34	1
Boron	**3700**		400	220	ug/L		10/15/19 07:39	10/17/19 12:58	2
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:34	1
Calcium	**31**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 22:34	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:34	1
Cobalt	<0.091		0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:34	1
Lead	**0.41**	**J**	0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:34	1
Lithium	**48**		10	2.7	ug/L		10/15/19 07:39	10/16/19 22:34	1
Molybdenum	**130**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:34	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**340**		30	24	mg/L			10/18/19 11:40	1
pH	**10.2**	**HF**	0.1	0.1	SU			10/12/19 11:46	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-126.3**				millivolts			10/11/19 15:06	1
Oxygen, Dissolved, Client Supplied	**0.24**				mg/L			10/11/19 15:06	1
pH, Field	**10.14**				SU			10/11/19 15:06	1
Specific Conductance, Field	**536**				umhos/cm			10/11/19 15:06	1
Temperature, Field	**14.37**				Degrees C			10/11/19 15:06	1
Turbidity, Field	**3.23**				NTU			10/11/19 15:06	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-308

Date Collected: 10/10/19 10:08
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-8

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**40**		5.0	1.5	mg/L			10/21/19 14:24	5
Fluoride	<0.23		0.50	0.23	mg/L			10/21/19 14:24	5
Sulfate	**160**		5.0	1.8	mg/L			10/21/19 14:24	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:48	1
Arsenic	**72**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 22:48	1
Barium	**70**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:48	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 22:48	1
Boron	**4500**		400	220	ug/L		10/15/19 07:39	10/17/19 13:01	2
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:48	1
Calcium	**30**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 22:48	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:48	1
Cobalt	<0.091		0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:48	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:48	1
Lithium	**52**		10	2.7	ug/L		10/15/19 07:39	10/16/19 22:48	1
Molybdenum	**120**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:48	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**400**		150	120	mg/L			10/16/19 10:06	1
pH	**9.9**	**HF**	0.1	0.1	SU			10/12/19 11:44	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-82.6**				millivolts			10/10/19 10:08	1
Oxygen, Dissolved, Client Supplied	**0.21**				mg/L			10/10/19 10:08	1
pH, Field	**9.42**				SU			10/10/19 10:08	1
Specific Conductance, Field	**671**				umhos/cm			10/10/19 10:08	1
Temperature, Field	**14.64**				Degrees C			10/10/19 10:08	1
Turbidity, Field	**2.93**				NTU			10/10/19 10:08	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-309

Date Collected: 10/11/19 09:44
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-9

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**74**		5.0	1.5	mg/L			10/21/19 14:40	5
Fluoride	**0.29**	**J**	0.50	0.23	mg/L			10/21/19 14:40	5
Sulfate	**160**		5.0	1.8	mg/L			10/21/19 14:40	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:52	1
Arsenic	**34**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 22:52	1
Barium	**180**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:52	1
Beryllium	<0.54		2.0	0.54	ug/L		10/15/19 07:39	10/17/19 13:11	2
Boron	**4300**		400	220	ug/L		10/15/19 07:39	10/17/19 13:11	2
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:52	1
Calcium	**68**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 22:52	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:52	1
Cobalt	**0.52**		0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:52	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:52	1
Lithium	<5.4		20	5.4	ug/L		10/15/19 07:39	10/17/19 13:11	2
Molybdenum	**90**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:52	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**610**		60	48	mg/L			10/18/19 11:40	1
pH	**7.2**	**HF**	0.1	0.1	SU			10/12/19 11:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-165.6**				millivolts			10/11/19 09:44	1
Oxygen, Dissolved, Client Supplied	**0.21**				mg/L			10/11/19 09:44	1
pH, Field	**7.19**				SU			10/11/19 09:44	1
Specific Conductance, Field	**1040**				umhos/cm			10/11/19 09:44	1
Temperature, Field	**13.73**				Degrees C			10/11/19 09:44	1
Turbidity, Field	**8.93**				NTU			10/11/19 09:44	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-310

Date Collected: 10/11/19 08:02
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-10

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**59**		5.0	1.5	mg/L			10/21/19 16:09	5
Fluoride	**0.34**	**J**	0.50	0.23	mg/L			10/21/19 16:09	5
Sulfate	**51**		5.0	1.8	mg/L			10/21/19 16:09	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:55	1
Arsenic	**61**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 22:55	1
Barium	**500**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:55	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/17/19 13:14	1
Boron	**380**		200	110	ug/L		10/15/19 07:39	10/17/19 13:14	1
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:55	1
Calcium	**120**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 22:55	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:55	1
Cobalt	**1.9**		0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:55	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:55	1
Lithium	<2.7		10	2.7	ug/L		10/15/19 07:39	10/17/19 13:14	1
Molybdenum	**6.0**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:55	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**410**		60	48	mg/L			10/18/19 11:40	1
pH	**7.2**	**HF**	0.1	0.1	SU			10/12/19 11:38	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-189.7**				millivolts			10/11/19 08:02	1
Oxygen, Dissolved, Client Supplied	**0.28**				mg/L			10/11/19 08:02	1
pH, Field	**6.95**				SU			10/11/19 08:02	1
Specific Conductance, Field	**961**				umhos/cm			10/11/19 08:02	1
Temperature, Field	**15.88**				Degrees C			10/11/19 08:02	1
Turbidity, Field	**5.23**				NTU			10/11/19 08:02	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-311

Date Collected: 10/11/19 08:54
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-11

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65**		5.0	1.5	mg/L			10/21/19 16:41	5
Fluoride	**0.37**	**J**	0.50	0.23	mg/L			10/21/19 16:41	5
Sulfate	**130**		5.0	1.8	mg/L			10/21/19 16:41	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 22:58	1
Arsenic	**18**		2.0	0.75	ug/L		10/15/19 07:39	10/17/19 13:16	1
Barium	**210**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 22:58	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/17/19 13:16	1
Boron	**2800**		200	110	ug/L		10/15/19 07:39	10/17/19 13:16	1
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 22:58	1
Calcium	**150**		0.50	0.10	mg/L		10/15/19 07:39	10/17/19 13:16	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 22:58	1
Cobalt	**0.27**	**J**	0.50	0.091	ug/L		10/15/19 07:39	10/16/19 22:58	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 22:58	1
Lithium	<2.7		10	2.7	ug/L		10/15/19 07:39	10/17/19 13:16	1
Molybdenum	**15**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 22:58	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 22:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**590**		60	48	mg/L			10/18/19 11:40	1
pH	**7.2**	**HF**	0.1	0.1	SU			10/12/19 12:04	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-163.4**				millivolts			10/11/19 08:54	1
Oxygen, Dissolved, Client Supplied	**0.30**				mg/L			10/11/19 08:54	1
pH, Field	**7.07**				SU			10/11/19 08:54	1
Specific Conductance, Field	**1088**				umhos/cm			10/11/19 08:54	1
Temperature, Field	**14.19**				Degrees C			10/11/19 08:54	1
Turbidity, Field	**13.4**				NTU			10/11/19 08:54	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-312

Date Collected: 10/10/19 15:22
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-12

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25**		5.0	1.5	mg/L			10/21/19 16:56	5
Fluoride	**0.25**	**J**	0.50	0.23	mg/L			10/21/19 16:56	5
Sulfate	**230**		5.0	1.8	mg/L			10/21/19 16:56	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 23:05	1
Arsenic	**15**		4.0	1.5	ug/L		10/15/19 07:39	10/17/19 13:22	2
Barium	**150**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 23:05	1
Beryllium	<0.54		2.0	0.54	ug/L		10/15/19 07:39	10/17/19 13:22	2
Boron	**6600**		400	220	ug/L		10/15/19 07:39	10/17/19 13:22	2
Cadmium	**0.044**	**J**	0.10	0.039	ug/L		10/15/19 07:39	10/16/19 23:05	1
Calcium	**71**		1.0	0.20	mg/L		10/15/19 07:39	10/17/19 13:22	2
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 23:05	1
Cobalt	**0.36**	**J**	0.50	0.091	ug/L		10/15/19 07:39	10/16/19 23:05	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 23:05	1
Lithium	**27**		20	5.4	ug/L		10/15/19 07:39	10/17/19 13:22	2
Molybdenum	**280**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 23:05	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 23:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**510**		150	120	mg/L			10/16/19 10:06	1
pH	**7.3**	**HF**	0.1	0.1	SU			10/12/19 12:06	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-163.8**				millivolts			10/10/19 15:22	1
Oxygen, Dissolved, Client Supplied	**8.75**				mg/L			10/10/19 15:22	1
pH, Field	**7.19**				SU			10/10/19 15:22	1
Specific Conductance, Field	**785**				umhos/cm			10/10/19 15:22	1
Temperature, Field	**15.6**				Degrees C			10/10/19 15:22	1
Turbidity, Field	**2.56**				NTU			10/10/19 15:22	1

Client Sample Results

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-313

Date Collected: 10/10/19 14:36
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-13

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**51**		5.0	1.5	mg/L			10/21/19 17:12	5
Fluoride	**0.28**	**J**	0.50	0.23	mg/L			10/21/19 17:12	5
Sulfate	**210**		5.0	1.8	mg/L			10/21/19 17:12	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 23:09	1
Arsenic	**6.3**		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 23:09	1
Barium	**490**		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 23:09	1
Beryllium	<1.1		4.0	1.1	ug/L		10/15/19 07:39	10/17/19 13:24	4
Boron	**8500**		800	440	ug/L		10/15/19 07:39	10/17/19 13:24	4
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 23:09	1
Calcium	**120**		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 23:09	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 23:09	1
Cobalt	**0.32**	**J**	0.50	0.091	ug/L		10/15/19 07:39	10/16/19 23:09	1
Lead	**0.31**	**J**	0.50	0.27	ug/L		10/15/19 07:39	10/16/19 23:09	1
Lithium	**62**		40	11	ug/L		10/15/19 07:39	10/17/19 13:24	4
Molybdenum	**110**		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 23:09	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 23:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**520**		150	120	mg/L			10/16/19 10:06	1
pH	**7.2**	**HF**	0.1	0.1	SU			10/12/19 12:08	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	**-163.4**				millivolts			10/10/19 14:36	1
Oxygen, Dissolved, Client Supplied	**0.37**				mg/L			10/10/19 14:36	1
pH, Field	**7.06**				SU			10/10/19 14:36	1
Specific Conductance, Field	**1007**				umhos/cm			10/10/19 14:36	1
Temperature, Field	**16.04**				Degrees C			10/10/19 14:36	1
Turbidity, Field	**11.03**				NTU			10/10/19 14:36	1

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: Field Blank

Date Collected: 10/10/19 23:59
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-14

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.29		1.0	0.29	mg/L			10/21/19 17:28	1
Fluoride	<0.045		0.10	0.045	mg/L			10/21/19 17:28	1
Sulfate	<0.35		1.0	0.35	mg/L			10/21/19 17:28	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 23:12	1
Arsenic	<0.75		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 23:12	1
Barium	<0.84		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 23:12	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 23:12	1
Boron	<110		200	110	ug/L		10/15/19 07:39	10/17/19 13:27	1
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 23:12	1
Calcium	<0.10		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 23:12	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 23:12	1
Cobalt	<0.091		0.50	0.091	ug/L		10/15/19 07:39	10/16/19 23:12	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 23:12	1
Lithium	<2.7		10	2.7	ug/L		10/15/19 07:39	10/16/19 23:12	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 23:12	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 23:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<24		30	24	mg/L			10/16/19 10:06	1
pH	**5.7**	**HF**	0.1	0.1	SU			10/12/19 12:10	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-258109/3
Matrix: Water
Analysis Batch: 258109

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.29		1.0	0.29	mg/L			10/21/19 09:13	1
Fluoride	<0.045		0.10	0.045	mg/L			10/21/19 09:13	1
Sulfate	<0.35		1.0	0.35	mg/L			10/21/19 09:13	1

Lab Sample ID: LCS 310-258109/4
Matrix: Water
Analysis Batch: 258109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.87		mg/L		99	90 - 110
Fluoride	2.00	2.02		mg/L		101	90 - 110
Sulfate	10.0	10.0		mg/L		100	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-256797/1-A
Matrix: Water
Analysis Batch: 257130

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256797

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.53		1.0	0.53	ug/L		10/15/19 07:39	10/16/19 21:43	1
Arsenic	<0.75		2.0	0.75	ug/L		10/15/19 07:39	10/16/19 21:43	1
Barium	<0.84		2.0	0.84	ug/L		10/15/19 07:39	10/16/19 21:43	1
Beryllium	<0.27		1.0	0.27	ug/L		10/15/19 07:39	10/16/19 21:43	1
Boron	<110		200	110	ug/L		10/15/19 07:39	10/16/19 21:43	1
Cadmium	<0.039		0.10	0.039	ug/L		10/15/19 07:39	10/16/19 21:43	1
Calcium	<0.10		0.50	0.10	mg/L		10/15/19 07:39	10/16/19 21:43	1
Chromium	<0.98		5.0	0.98	ug/L		10/15/19 07:39	10/16/19 21:43	1
Cobalt	<0.091		0.50	0.091	ug/L		10/15/19 07:39	10/16/19 21:43	1
Lead	<0.27		0.50	0.27	ug/L		10/15/19 07:39	10/16/19 21:43	1
Lithium	<2.7		10	2.7	ug/L		10/15/19 07:39	10/16/19 21:43	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/15/19 07:39	10/16/19 21:43	1
Selenium	<1.0		5.0	1.0	ug/L		10/15/19 07:39	10/16/19 21:43	1

Lab Sample ID: LCS 310-256797/2-A
Matrix: Water
Analysis Batch: 257130

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256797

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	40.0	34.1		ug/L		85	80 - 120
Arsenic	80.0	74.3		ug/L		93	80 - 120
Barium	80.0	80.5		ug/L		101	80 - 120
Beryllium	40.0	41.2		ug/L		103	80 - 120
Boron	1760	1600		ug/L		91	80 - 120
Cadmium	40.0	41.9		ug/L		105	80 - 120
Calcium	4.00	3.91		mg/L		98	80 - 120
Chromium	80.0	80.2		ug/L		100	80 - 120
Cobalt	40.0	40.8		ug/L		102	80 - 120
Lead	40.0	40.7		ug/L		102	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 310-256797/2-A
Matrix: Water
Analysis Batch: 257130

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256797

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	200	193		ug/L		96	80 - 120
Molybdenum	80.0	73.8		ug/L		92	80 - 120
Selenium	80.0	73.3		ug/L		92	80 - 120

Lab Sample ID: 310-167314-1 MS
Matrix: Water
Analysis Batch: 257130

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 256797

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.53		40.0	37.8		ug/L		94	75 - 125
Arsenic	40		80.0	117		ug/L		96	75 - 125
Barium	320		80.0	383		ug/L		85	75 - 125
Beryllium	<0.27		40.0	39.5		ug/L		99	75 - 125
Cadmium	<0.039		40.0	40.6		ug/L		102	75 - 125
Calcium	130		4.00	126	4	mg/L		-9	75 - 125
Chromium	<0.98		80.0	77.4		ug/L		97	75 - 125
Cobalt	0.18	J	40.0	39.0		ug/L		97	75 - 125
Lead	<0.27		40.0	39.9		ug/L		100	75 - 125
Lithium	26		200	211		ug/L		93	75 - 125
Molybdenum	130		80.0	204		ug/L		96	75 - 125
Selenium	<1.0		80.0	75.0		ug/L		94	75 - 125

Lab Sample ID: 310-167314-1 MS
Matrix: Water
Analysis Batch: 257278

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 256797

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	8100		1760	9420	4	ug/L		76	75 - 125

Lab Sample ID: 310-167314-1 MSD
Matrix: Water
Analysis Batch: 257130

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 256797

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.53		40.0	38.1		ug/L		95	75 - 125	1	20
Arsenic	40		80.0	118		ug/L		98	75 - 125	1	20
Barium	320		80.0	389		ug/L		92	75 - 125	2	20
Beryllium	<0.27		40.0	40.7		ug/L		102	75 - 125	3	20
Cadmium	<0.039		40.0	41.9		ug/L		105	75 - 125	3	20
Calcium	130		4.00	128	4	mg/L		30	75 - 125	1	20
Chromium	<0.98		80.0	78.9		ug/L		99	75 - 125	2	20
Cobalt	0.18	J	40.0	39.4		ug/L		98	75 - 125	1	20
Lead	<0.27		40.0	40.8		ug/L		102	75 - 125	2	20
Lithium	26		200	217		ug/L		95	75 - 125	2	20
Molybdenum	130		80.0	208		ug/L		101	75 - 125	2	20
Selenium	<1.0		80.0	75.0		ug/L		94	75 - 125	0	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 310-167314-1 MSD
Matrix: Water
Analysis Batch: 257278

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 256797

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	8100		1760	9960	4	ug/L		107	75 - 125	6	20

Lab Sample ID: 310-167314-11 DU
Matrix: Water
Analysis Batch: 257130

Client Sample ID: MW-311
Prep Type: Total/NA
Prep Batch: 256797

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.53			<0.53		ug/L				NC	20
Barium	210			213		ug/L				0.6	20
Cadmium	<0.039			<0.039		ug/L				NC	20
Chromium	<0.98			<0.98		ug/L				NC	20
Cobalt	0.27	J		0.274	J	ug/L				0.7	20
Lead	<0.27			<0.27		ug/L				NC	20
Molybdenum	15			14.8		ug/L				0	20
Selenium	<1.0			<1.0		ug/L				NC	20

Lab Sample ID: 310-167314-11 DU
Matrix: Water
Analysis Batch: 257278

Client Sample ID: MW-311
Prep Type: Total/NA
Prep Batch: 256797

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Arsenic	18			19.2		ug/L				5	20
Beryllium	<0.27			<0.27		ug/L				NC	20
Boron	2800			2920		ug/L				5	20
Calcium	150			155		mg/L				4	20
Lithium	<2.7			<2.7		ug/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 310-257014/1
Matrix: Water
Analysis Batch: 257014

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<24		30	24	mg/L			10/16/19 10:06	1

Lab Sample ID: LCS 310-257014/2
Matrix: Water
Analysis Batch: 257014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	994		mg/L		99	90 - 110		

Lab Sample ID: 310-167314-1 DU
Matrix: Water
Analysis Batch: 257014

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	690			700		mg/L				1	24

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 310-257410/1
Matrix: Water
Analysis Batch: 257410

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<24		30	24	mg/L			10/18/19 11:40	1

Lab Sample ID: LCS 310-257410/2
Matrix: Water
Analysis Batch: 257410

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	964		mg/L		96	90 - 110		

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-256487/1
Matrix: Water
Analysis Batch: 256487

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100	98 - 102		

Lab Sample ID: 310-167314-1 DU
Matrix: Water
Analysis Batch: 256487

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.1	HF		7.1		SU				0	20

Lab Sample ID: 310-167314-10 DU
Matrix: Water
Analysis Batch: 256487

Client Sample ID: MW-310
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.2	HF		7.2		SU				0	20

HPLC/IC

Analysis Batch: 258109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-1	MW-301	Total/NA	Water	9056A	
310-167314-1	MW-301	Total/NA	Water	9056A	
310-167314-2	MW-302	Total/NA	Water	9056A	
310-167314-2	MW-302	Total/NA	Water	9056A	
310-167314-3	MW-303	Total/NA	Water	9056A	
310-167314-4	MW-304	Total/NA	Water	9056A	
310-167314-5	MW-305	Total/NA	Water	9056A	
310-167314-6	MW-306	Total/NA	Water	9056A	
310-167314-7	MW-307	Total/NA	Water	9056A	
310-167314-8	MW-308	Total/NA	Water	9056A	
310-167314-9	MW-309	Total/NA	Water	9056A	
310-167314-10	MW-310	Total/NA	Water	9056A	
310-167314-11	MW-311	Total/NA	Water	9056A	
310-167314-12	MW-312	Total/NA	Water	9056A	
310-167314-13	MW-313	Total/NA	Water	9056A	
310-167314-14	Field Blank	Total/NA	Water	9056A	
MB 310-258109/3	Method Blank	Total/NA	Water	9056A	
LCS 310-258109/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 256797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-1	MW-301	Total/NA	Water	3010A	
310-167314-2	MW-302	Total/NA	Water	3010A	
310-167314-3	MW-303	Total/NA	Water	3010A	
310-167314-4	MW-304	Total/NA	Water	3010A	
310-167314-5	MW-305	Total/NA	Water	3010A	
310-167314-6	MW-306	Total/NA	Water	3010A	
310-167314-7	MW-307	Total/NA	Water	3010A	
310-167314-8	MW-308	Total/NA	Water	3010A	
310-167314-9	MW-309	Total/NA	Water	3010A	
310-167314-10	MW-310	Total/NA	Water	3010A	
310-167314-11	MW-311	Total/NA	Water	3010A	
310-167314-12	MW-312	Total/NA	Water	3010A	
310-167314-13	MW-313	Total/NA	Water	3010A	
310-167314-14	Field Blank	Total/NA	Water	3010A	
MB 310-256797/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-256797/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-167314-1 MS	MW-301	Total/NA	Water	3010A	
310-167314-1 MSD	MW-301	Total/NA	Water	3010A	
310-167314-11 DU	MW-311	Total/NA	Water	3010A	

Analysis Batch: 257130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-1	MW-301	Total/NA	Water	6020A	256797
310-167314-2	MW-302	Total/NA	Water	6020A	256797
310-167314-3	MW-303	Total/NA	Water	6020A	256797
310-167314-4	MW-304	Total/NA	Water	6020A	256797
310-167314-5	MW-305	Total/NA	Water	6020A	256797
310-167314-6	MW-306	Total/NA	Water	6020A	256797

Metals (Continued)

Analysis Batch: 257130 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-7	MW-307	Total/NA	Water	6020A	256797
310-167314-8	MW-308	Total/NA	Water	6020A	256797
310-167314-9	MW-309	Total/NA	Water	6020A	256797
310-167314-10	MW-310	Total/NA	Water	6020A	256797
310-167314-11	MW-311	Total/NA	Water	6020A	256797
310-167314-12	MW-312	Total/NA	Water	6020A	256797
310-167314-13	MW-313	Total/NA	Water	6020A	256797
310-167314-14	Field Blank	Total/NA	Water	6020A	256797
MB 310-256797/1-A	Method Blank	Total/NA	Water	6020A	256797
LCS 310-256797/2-A	Lab Control Sample	Total/NA	Water	6020A	256797
310-167314-1 MS	MW-301	Total/NA	Water	6020A	256797
310-167314-1 MSD	MW-301	Total/NA	Water	6020A	256797
310-167314-11 DU	MW-311	Total/NA	Water	6020A	256797

Analysis Batch: 257278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-1	MW-301	Total/NA	Water	6020A	256797
310-167314-2	MW-302	Total/NA	Water	6020A	256797
310-167314-3	MW-303	Total/NA	Water	6020A	256797
310-167314-4	MW-304	Total/NA	Water	6020A	256797
310-167314-5	MW-305	Total/NA	Water	6020A	256797
310-167314-6	MW-306	Total/NA	Water	6020A	256797
310-167314-7	MW-307	Total/NA	Water	6020A	256797
310-167314-8	MW-308	Total/NA	Water	6020A	256797
310-167314-9	MW-309	Total/NA	Water	6020A	256797
310-167314-10	MW-310	Total/NA	Water	6020A	256797
310-167314-11	MW-311	Total/NA	Water	6020A	256797
310-167314-12	MW-312	Total/NA	Water	6020A	256797
310-167314-13	MW-313	Total/NA	Water	6020A	256797
310-167314-14	Field Blank	Total/NA	Water	6020A	256797
310-167314-1 MS	MW-301	Total/NA	Water	6020A	256797
310-167314-1 MSD	MW-301	Total/NA	Water	6020A	256797
310-167314-11 DU	MW-311	Total/NA	Water	6020A	256797

General Chemistry

Analysis Batch: 256487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-167314-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-167314-3	MW-303	Total/NA	Water	SM 4500 H+ B	
310-167314-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-167314-5	MW-305	Total/NA	Water	SM 4500 H+ B	
310-167314-6	MW-306	Total/NA	Water	SM 4500 H+ B	
310-167314-7	MW-307	Total/NA	Water	SM 4500 H+ B	
310-167314-8	MW-308	Total/NA	Water	SM 4500 H+ B	
310-167314-9	MW-309	Total/NA	Water	SM 4500 H+ B	
310-167314-10	MW-310	Total/NA	Water	SM 4500 H+ B	
310-167314-11	MW-311	Total/NA	Water	SM 4500 H+ B	
310-167314-12	MW-312	Total/NA	Water	SM 4500 H+ B	
310-167314-13	MW-313	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 256487 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-14	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-256487/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-167314-1 DU	MW-301	Total/NA	Water	SM 4500 H+ B	
310-167314-10 DU	MW-310	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 257014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-1	MW-301	Total/NA	Water	SM 2540C	
310-167314-2	MW-302	Total/NA	Water	SM 2540C	
310-167314-3	MW-303	Total/NA	Water	SM 2540C	
310-167314-4	MW-304	Total/NA	Water	SM 2540C	
310-167314-5	MW-305	Total/NA	Water	SM 2540C	
310-167314-8	MW-308	Total/NA	Water	SM 2540C	
310-167314-12	MW-312	Total/NA	Water	SM 2540C	
310-167314-13	MW-313	Total/NA	Water	SM 2540C	
310-167314-14	Field Blank	Total/NA	Water	SM 2540C	
MB 310-257014/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-257014/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-167314-1 DU	MW-301	Total/NA	Water	SM 2540C	

Analysis Batch: 257410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-6	MW-306	Total/NA	Water	SM 2540C	
310-167314-7	MW-307	Total/NA	Water	SM 2540C	
310-167314-9	MW-309	Total/NA	Water	SM 2540C	
310-167314-10	MW-310	Total/NA	Water	SM 2540C	
310-167314-11	MW-311	Total/NA	Water	SM 2540C	
MB 310-257410/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-257410/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 257065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-1	MW-301	Total/NA	Water	Field Sampling	
310-167314-2	MW-302	Total/NA	Water	Field Sampling	
310-167314-3	MW-303	Total/NA	Water	Field Sampling	
310-167314-4	MW-304	Total/NA	Water	Field Sampling	
310-167314-5	MW-305	Total/NA	Water	Field Sampling	
310-167314-6	MW-306	Total/NA	Water	Field Sampling	
310-167314-7	MW-307	Total/NA	Water	Field Sampling	
310-167314-8	MW-308	Total/NA	Water	Field Sampling	
310-167314-9	MW-309	Total/NA	Water	Field Sampling	
310-167314-10	MW-310	Total/NA	Water	Field Sampling	
310-167314-11	MW-311	Total/NA	Water	Field Sampling	
310-167314-12	MW-312	Total/NA	Water	Field Sampling	
310-167314-13	MW-313	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-301

Lab Sample ID: 310-167314-1
Date Collected: 10/10/19 11:02
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 12:20	CJT	TAL CF
Total/NA	Analysis	9056A		20	258109	10/21/19 17:43	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 21:50	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		4	257278	10/17/19 12:37	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257014	10/16/19 10:06	LBB	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 12:01	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/10/19 11:02	EAR	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-167314-2
Date Collected: 10/10/19 12:12
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 12:35	CJT	TAL CF
Total/NA	Analysis	9056A		20	258109	10/21/19 17:59	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:17	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		4	257278	10/17/19 12:45	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257014	10/16/19 10:06	LBB	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 11:55	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/10/19 12:12	EAR	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-167314-3
Date Collected: 10/10/19 13:00
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 12:51	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:21	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		10	257278	10/17/19 12:47	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257014	10/16/19 10:06	LBB	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 11:53	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/10/19 13:00	EAR	TAL CF

Client Sample ID: MW-304

Lab Sample ID: 310-167314-4

Date Collected: 10/10/19 13:44

Matrix: Water

Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 13:06	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:24	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		4	257278	10/17/19 12:50	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257014	10/16/19 10:06	LBB	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 11:51	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/10/19 13:44	EAR	TAL CF

Client Sample ID: MW-305

Lab Sample ID: 310-167314-5

Date Collected: 10/11/19 10:30

Matrix: Water

Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 13:22	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:28	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		2	257278	10/17/19 12:53	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257014	10/16/19 10:06	LBB	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 11:49	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/11/19 10:30	EAR	TAL CF

Client Sample ID: MW-306

Lab Sample ID: 310-167314-6

Date Collected: 10/11/19 11:16

Matrix: Water

Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 13:38	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:31	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		2	257278	10/17/19 12:55	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257410	10/18/19 11:40	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 11:48	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/11/19 11:16	EAR	TAL CF

Client Sample ID: MW-307

Lab Sample ID: 310-167314-7

Date Collected: 10/11/19 15:06

Matrix: Water

Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 14:09	CJT	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-307

Lab Sample ID: 310-167314-7
Matrix: Water
Date Collected: 10/11/19 15:06
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:34	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		2	257278	10/17/19 12:58	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257410	10/18/19 11:40	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 11:46	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/11/19 15:06	EAR	TAL CF

Client Sample ID: MW-308

Lab Sample ID: 310-167314-8
Matrix: Water
Date Collected: 10/10/19 10:08
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 14:24	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:48	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		2	257278	10/17/19 13:01	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257014	10/16/19 10:06	LBB	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 11:44	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/10/19 10:08	EAR	TAL CF

Client Sample ID: MW-309

Lab Sample ID: 310-167314-9
Matrix: Water
Date Collected: 10/11/19 09:44
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 14:40	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:52	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		2	257278	10/17/19 13:11	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257410	10/18/19 11:40	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 11:42	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/11/19 09:44	EAR	TAL CF

Client Sample ID: MW-310

Lab Sample ID: 310-167314-10
Matrix: Water
Date Collected: 10/11/19 08:02
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 16:09	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:55	SAD	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Client Sample ID: MW-310
Date Collected: 10/11/19 08:02
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257278	10/17/19 13:14	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257410	10/18/19 11:40	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 11:38	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/11/19 08:02	EAR	TAL CF

Client Sample ID: MW-311
Date Collected: 10/11/19 08:54
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 16:41	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 22:58	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257278	10/17/19 13:16	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257410	10/18/19 11:40	MDK	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 12:04	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/11/19 08:54	EAR	TAL CF

Client Sample ID: MW-312
Date Collected: 10/10/19 15:22
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 16:56	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 23:05	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		2	257278	10/17/19 13:22	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257014	10/16/19 10:06	LBB	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 12:06	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/10/19 15:22	EAR	TAL CF

Client Sample ID: MW-313
Date Collected: 10/10/19 14:36
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	258109	10/21/19 17:12	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 23:09	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		4	257278	10/17/19 13:24	SAD	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-167314-1
Project/Site: Burlington Gen Station 25216066

Client Sample ID: MW-313
Lab Sample ID: 310-167314-13
Date Collected: 10/10/19 14:36
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	257014	10/16/19 10:06	LBB	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 12:08	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	257065	10/10/19 14:36	EAR	TAL CF

Client Sample ID: Field Blank
Lab Sample ID: 310-167314-14
Date Collected: 10/10/19 23:59
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	258109	10/21/19 17:28	CJT	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257130	10/16/19 23:12	SAD	TAL CF
Total/NA	Prep	3010A			256797	10/15/19 07:39	HED	TAL CF
Total/NA	Analysis	6020A		1	257278	10/17/19 13:27	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	257014	10/16/19 10:06	LBB	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	256487	10/12/19 12:10	SAS	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-167314-1
Project/Site: Burlington Gen Station 25216066

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State Program	007	12-01-19

Method Summary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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310-167314 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA | Project: Burlington Gen Station

Receipt Information

Date/Time Received: DATE 10-12-19 TIME 945 | Received By: LAB

Delivery Type: ☐ UPS ☒ FedEx sat ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 1 of 3
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): +0.0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.5 | Corrected Temp (°C): 0.5

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA

Project: Burlington Gen Station

Receipt Information

Date/Time Received: DATE 10-12-19 TIME 945

Received By: LAB

Delivery Type: ☐ UPS ☒ FedEx sat ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 2 of 3
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N

Correction Factor (°C): +0.0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.1

Corrected Temp (°C): 0.1

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA | Project: Burlington Gen Station

Receipt Information

Date/Time Received: DATE 10-12-19 TIME 945 | Received By: LMB

Delivery Type: ☐ UPS ☒ FedEx sat ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 3 of 3
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): +0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.3 | Corrected Temp (°C): 1.3

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program Assessment Monitoring
Groundwater Monitoring - Burlington Generating Station / SCS Engineers Project #25216066

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	MW-312	MW-313	Field Blank	TOTAL
Appendix III Parameters	Boron	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Calcium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Chloride	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	pH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Sulfate	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	TDS	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
Appendix IV Parameters	Antimony	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Arsenic	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Barium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Beryllium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Cadmium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Chromium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Cobalt	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Lead	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Lithium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Mercury															0
	Molybdenum	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Selenium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Thallium															0
	Radium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
Field Parameters	Groundwater Elevation	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Well Depth	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	pH (field)	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Specific Conductance	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	ORP	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Temperature	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Turbidity	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Color	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Odor	x	x	x	x	x	x	x	x	x	x	x	x	x		13

Notes: All samples are unfiltered (total).

I:\25219066.00\Data and Calculations\Field Work Requests\[Table_1_BGS_CCR_Rule_Sampling_1910.xls]Sheet1

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins | Environment Testing TestAmerica

43647

Client Information	Sampler: Louise Jennings	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-43667-14046.1
Client Contact: Louise Jennings	Phone: 608 509 8245	E-Mail: sandie.fredrick@testamericainc.com		Page: Page 1 of 2
Company: SCS Engineers				Job #:
Address: 8450 Hickman Road Suite 20	Due Date Requested:			
City: Clive	TAT Requested (days): Standard			
State, Zip: IA, 50325				
Phone:	PO #: 25216066			
Email: ljennings@scsengineers.com	WO #:			
Project Name: Burlington Gen Station 25216066	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals - Hg	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	D		
MW-301	10.10.19	1102	G	Water			X	X	X	X		
MW-302	10.10.19	1212	G	Water								
MW-303	10/10/19	1300	G	Water								
MW-304	10.10.19	1344	G	Water								
MW-305	10.11.19	1030	G	Water								
MW-306	10.11.19	1116	G	Water								
MW-307	10.11.19	1206	G	Water								
MW-308	10.10.19	1008	G	Water								
MW-309	10.11.19	0944	G	Water								
MW-310	10.11.19	0902	G	Water								
MW-311	10.11.19	0854	G	Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10.11.19 16:15	SCS	Lindsay Binder	10-12-19 945	ETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Page 44 of 49

10/28/2019

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC 214

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Client Information	Sampler: Louise Jennings	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-43667-14046.2
Client Contact: Louise Jennings	Phone: 608 509 8945	E-Mail: sandie.fredrick@testamericainc.com		Page: Page 2 of 2
Company: SCS Engineers				Job #:
Address: 8450 Hickman Road Suite 20	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Clive	TAT Requested (days): Standard			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: IA, 50325	PO #: 25216066			
Phone:	WO #:			Other:
Email: ljennings@scsengineers.com	Project #: 31011020			
Project Name: Burlington Gen Station 25216066	SSOW#:			
Site:				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals - Hg	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	D	X	
MW-312	10.10.19	1522	G	Water								
MW-313	10.10.19	1436	G	Water								
Field Blank	10.10.19	2359	—	Water								
				Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10.11.19 1615		Lindsay Burdett	10-12-19 945	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
MW-301	310-167314-A-1	Plastic 250ml - with Nitric Acid	<2		
MW-301	310-167314-B-1	Plastic 1 liter - Nitric Acid	<2		
MW-301	310-167314-C-1	Plastic 1 liter - Nitric Acid	<2		
MW-302	310-167314-A-2	Plastic 250ml - with Nitric Acid	<2		
MW-302	310-167314-B-2	Plastic 1 liter - Nitric Acid	<2		
MW-302	310-167314-C-2	Plastic 1 liter - Nitric Acid	<2		
MW-303	310-167314-A-3	Plastic 250ml - with Nitric Acid	<2		
MW-303	310-167314-B-3	Plastic 1 liter - Nitric Acid	<2		
MW-303	310-167314-C-3	Plastic 1 liter - Nitric Acid	<2		
MW-304	310-167314-A-4	Plastic 250ml - with Nitric Acid	<2		
MW-304	310-167314-B-4	Plastic 1 liter - Nitric Acid	<2		
MW-304	310-167314-C-4	Plastic 1 liter - Nitric Acid	<2		
MW-305	310-167314-A-5	Plastic 250ml - with Nitric Acid	<2		
MW-305	310-167314-B-5	Plastic 1 liter - Nitric Acid	<2		
MW-305	310-167314-C-5	Plastic 1 liter - Nitric Acid	<2		
MW-306	310-167314-A-6	Plastic 250ml - with Nitric Acid	<2		
MW-306	310-167314-B-6	Plastic 1 liter - Nitric Acid	<2		
MW-306	310-167314-C-6	Plastic 1 liter - Nitric Acid	<2		
MW-307	310-167314-A-7	Plastic 250ml - with Nitric Acid	<2		
MW-307	310-167314-B-7	Plastic 1 liter - Nitric Acid	<2		
MW-307	310-167314-C-7	Plastic 1 liter - Nitric Acid	<2		
MW-308	310-167314-A-8	Plastic 250ml - with Nitric Acid	<2		
MW-308	310-167314-B-8	Plastic 1 liter - Nitric Acid	<2		
MW-308	310-167314-C-8	Plastic 1 liter - Nitric Acid	<2		
MW-309	310-167314-A-9	Plastic 250ml - with Nitric Acid	<2		
MW-309	310-167314-B-9	Plastic 1 liter - Nitric Acid	<2		
MW-309	310-167314-C-9	Plastic 1 liter - Nitric Acid	<2		
MW-310	310-167314-A-10	Plastic 250ml - with Nitric Acid	<2		
MW-310	310-167314-B-10	Plastic 1 liter - Nitric Acid	<2		
MW-310	310-167314-C-10	Plastic 1 liter - Nitric Acid	<2		
MW-311	310-167314-A-11	Plastic 250ml - with Nitric Acid	<2		
MW-311	310-167314-B-11	Plastic 1 liter - Nitric Acid	<2		
MW-311	310-167314-C-11	Plastic 1 liter - Nitric Acid	<2		
MW-312	310-167314-A-12	Plastic 250ml - with Nitric Acid	<2		
MW-312	310-167314-B-12	Plastic 1 liter - Nitric Acid	<2		
MW-312	310-167314-C-12	Plastic 1 liter - Nitric Acid	<2		
MW-313	310-167314-A-13	Plastic 250ml - with Nitric Acid	<2		

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
MW-313	310-167314-B-13	Plastic 1 liter - Nitric Acid	<2		
MW-313	310-167314-C-13	Plastic 1 liter - Nitric Acid	<2		
Field Blank	310-167314-A-14	Plastic 250ml - with Nitric Acid	<2		
Field Blank	310-167314-B-14	Plastic 1 liter - Nitric Acid	<2		
Field Blank	310-167314-C-14	Plastic 1 liter - Nitric Acid	<2		

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-167314-1
SDG Number:

Login Number: 167314
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Table 1. Groundwater Monitoring Results - Field Parameters
Burlington Generating Station / SCS Engineers Project No. 25219066
October 2019

Sample	Sample Date/Time	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity
MW-301	10.10.19/1102	13.9	6.85	0.23	1,063	-162.9	12.55
MW-302	10.10.19/1212	14.46	7.49	0.28	1,249	-186.8	1.16
MW-303	10.10.19/1300	14.91	7.13	0.26	767	-161.0	5.36
MW-304	10.10.19/1344	15.64	7.17	0.28	934	-157.5	1.18
MW-305	10.11.19/1030	14.29	7.36	0.20	795	-132.9	3.02
MW-306	10.11.19/1116	14.28	10.53	0.21	473	-165.1	1.84
MW-307	10.11.19/1206	14.37	10.14	0.24	536	-126.3	3.23
MW-308	10.10.19/1008	14.64	9.42	0.21	671	-82.6	2.93
MW-309	10.11.19/0944	13.73	7.19	0.21	1,040	-165.6	8.93
MW-310	10.11.19/0802	15.88	6.95	0.28	961	-189.7	5.23
MW-311	10.11.19/0854	14.19	7.07	0.30	1,088	-163.4	13.4
MW-312	10.10.19/1522	15.6	7.19	8.75	785	-163.8	2.56
MW-313	10.10.19/1436	16.04	7.06	0.37	1,007	-163.4	11.03

Abbreviations:
mg/L = milligrams per liter
mV = millivolts
amsl = above mean sea level
µmhos/cm = micromohs per cm

Notes:
None

Created by: MDB Date: 6/11/2019
Last revision by: LWJ Date: 10/17/2019
Checked by: JSN Date: 10/18/2019

\\Mad-fs01\data\Projects\25219066.00\Data and Calculations\Tables\Field Data\[BGS_CCR_Field_1910.xlsx]GW Field Parameters

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-167314-2
Client Project/Site: Burlington Gen Station 25216066
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
12/27/2019 10:38:38 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-2

Job ID: 310-167314-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-167314-2

Comments
REVISION: Updated negative result for the Field blank for Radium.

Receipt
The samples were received on 10/12/2019 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.1º C, 0.5º C and 1.3º C.

RAD
Method 903.0: Radium-226 prep batch 160-446365- Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
MW-301 (310-167314-1), MW-302 (310-167314-2), MW-303 (310-167314-3), MW-304 (310-167314-4), MW-305 (310-167314-5), MW-306 (310-167314-6), MW-307 (310-167314-7), MW-308 (310-167314-8), MW-309 (310-167314-9), MW-310 (310-167314-10), MW-311 (310-167314-11), MW-312 (310-167314-12), MW-313 (310-167314-13), Field Blank (310-167314-14), (LCS 160-446365/1-A), (LCSD 160-446365/2-A) and (MB 160-446365/17-A)

Method 904.0: Radium-228 Prep Batch 160-446409 - Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
MW-301 (310-167314-1), MW-302 (310-167314-2), MW-303 (310-167314-3), MW-304 (310-167314-4), MW-305 (310-167314-5), MW-306 (310-167314-6), MW-307 (310-167314-7), MW-308 (310-167314-8), MW-309 (310-167314-9), MW-310 (310-167314-10), MW-311 (310-167314-11), MW-312 (310-167314-12), MW-313 (310-167314-13), Field Blank (310-167314-14), (LCS 160-446409/1-A), (LCSD 160-446409/2-A) and (MB 160-446409/17-A)

Method PrecSep_0: Radium 228 Prep Batch 160-446409: Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-167314-1), MW-302 (310-167314-2), MW-303 (310-167314-3), MW-304 (310-167314-4), MW-305 (310-167314-5), MW-306 (310-167314-6), MW-307 (310-167314-7), MW-308 (310-167314-8), MW-309 (310-167314-9), MW-310 (310-167314-10), MW-311 (310-167314-11), MW-312 (310-167314-12), MW-313 (310-167314-13) and Field Blank (310-167314-14). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-446365: Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-167314-1), MW-302 (310-167314-2), MW-303 (310-167314-3), MW-304 (310-167314-4), MW-305 (310-167314-5), MW-306 (310-167314-6), MW-307 (310-167314-7), MW-308 (310-167314-8), MW-309 (310-167314-9), MW-310 (310-167314-10), MW-311 (310-167314-11), MW-312 (310-167314-12), MW-313 (310-167314-13) and Field Blank (310-167314-14). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-167314-1	MW-301	Water	10/10/19 11:02	10/12/19 09:45	
310-167314-2	MW-302	Water	10/10/19 12:12	10/12/19 09:45	
310-167314-3	MW-303	Water	10/10/19 13:00	10/12/19 09:45	
310-167314-4	MW-304	Water	10/10/19 13:44	10/12/19 09:45	
310-167314-5	MW-305	Water	10/11/19 10:30	10/12/19 09:45	
310-167314-6	MW-306	Water	10/11/19 11:16	10/12/19 09:45	
310-167314-7	MW-307	Water	10/11/19 15:06	10/12/19 09:45	
310-167314-8	MW-308	Water	10/10/19 10:08	10/12/19 09:45	
310-167314-9	MW-309	Water	10/11/19 09:44	10/12/19 09:45	
310-167314-10	MW-310	Water	10/11/19 08:02	10/12/19 09:45	
310-167314-11	MW-311	Water	10/11/19 08:54	10/12/19 09:45	
310-167314-12	MW-312	Water	10/10/19 15:22	10/12/19 09:45	
310-167314-13	MW-313	Water	10/10/19 14:36	10/12/19 09:45	
310-167314-14	Field Blank	Water	10/10/19 23:59	10/12/19 09:45	

Client Sample ID: MW-301
Lab Sample ID: 310-167314-1

Date Collected: 10/10/19 11:02
Matrix: Water

Date Received: 10/12/19 09:45

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.498		0.155	0.161	1.00	0.152	pCi/L	10/16/19 07:28	11/07/19 09:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.2*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:34*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.527		0.304	0.308	1.00	0.460	pCi/L	10/16/19 08:00	10/31/19 17:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.2*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*
Y Carrier	*88.2*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.03		0.341	0.348	5.00	0.460	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-302

Date Collected: 10/10/19 12:12
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.374**		0.132	0.137	1.00	0.135	pCi/L	10/16/19 07:28	11/07/19 09:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.270	U	0.258	0.259	1.00	0.417	pCi/L	10/16/19 08:00	10/31/19 17:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*
Y Carrier	*93.1*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.644**		0.290	0.293	5.00	0.417	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-303
Date Collected: 10/10/19 13:00
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-3
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.728**		0.180	0.192	1.00	0.164	pCi/L	10/16/19 07:28	11/07/19 09:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.2*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:34*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.316	U	0.270	0.272	1.00	0.429	pCi/L	10/16/19 08:00	10/31/19 17:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.2*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*
Y Carrier	*82.2*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**1.04**		0.324	0.333	5.00	0.429	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-304

Date Collected: 10/10/19 13:44
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.353**		0.151	0.154	1.00	0.183	pCi/L	10/16/19 07:28	11/07/19 09:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.8*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:34*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.428	U	0.320	0.322	1.00	0.501	pCi/L	10/16/19 08:00	10/31/19 17:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.8*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*
Y Carrier	*83.4*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.781**		0.354	0.357	5.00	0.501	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-305

Date Collected: 10/11/19 10:30
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.256**		0.129	0.131	1.00	0.167	pCi/L	10/16/19 07:28	11/07/19 09:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.2*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.185	U	0.348	0.349	1.00	0.591	pCi/L	10/16/19 08:00	10/31/19 17:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.2*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*
Y Carrier	*82.2*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:35*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.441	U	0.371	0.373	5.00	0.591	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-306
Lab Sample ID: 310-167314-6

Date Collected: 10/11/19 11:16
Matrix: Water

Date Received: 10/12/19 09:45

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.210**		0.133	0.135	1.00	0.183	pCi/L	10/16/19 07:28	11/07/19 09:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.8*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.316	U	0.424	0.425	1.00	0.705	pCi/L	10/16/19 08:00	10/31/19 17:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.8*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:37*	*1*
Y Carrier	*83.7*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:37*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.526	U	0.444	0.446	5.00	0.705	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-307

Date Collected: 10/11/19 15:06
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-7

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.218**		0.115	0.117	1.00	0.147	pCi/L	10/16/19 07:28	11/07/19 09:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0141	U	0.334	0.334	1.00	0.590	pCi/L	10/16/19 08:00	10/31/19 17:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.1*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:37*	*1*
Y Carrier	*75.5*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:37*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.232	U	0.353	0.354	5.00	0.590	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-308

Date Collected: 10/10/19 10:08
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-8

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.202		0.101	0.102	1.00	0.128	pCi/L	10/16/19 07:28	11/07/19 09:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0862	U	0.261	0.262	1.00	0.451	pCi/L	10/16/19 08:00	10/31/19 17:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*
Y Carrier	*82.2*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.288	U	0.280	0.281	5.00	0.451	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-309
Date Collected: 10/11/19 09:44
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-9
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.274**		0.124	0.126	1.00	0.157	pCi/L	10/16/19 07:28	11/07/19 09:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.4*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.322	U	0.326	0.327	1.00	0.532	pCi/L	10/16/19 08:00	10/31/19 17:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.4*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*
Y Carrier	*81.5*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.596**		0.349	0.350	5.00	0.532	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-310

Date Collected: 10/11/19 08:02
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-10

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.473**		0.137	0.143	1.00	0.130	pCi/L	10/16/19 07:28	11/07/19 09:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0174	U	0.200	0.200	1.00	0.352	pCi/L	10/16/19 08:00	10/31/19 17:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*
Y Carrier	*96.1*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.490**		0.242	0.246	5.00	0.352	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-311
Date Collected: 10/11/19 08:54
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-11
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.354**		0.129	0.133	1.00	0.142	pCi/L	10/16/19 07:28	11/07/19 09:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.5*		*40 - 110*	*10/16/19 07:28*	*11/07/19 09:36*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.245	U	0.260	0.261	1.00	0.425	pCi/L	10/16/19 08:00	10/31/19 17:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.5*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*
Y Carrier	*92.0*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	**0.599**		0.290	0.293	5.00	0.425	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-312
Date Collected: 10/10/19 15:22
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-12
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.433**		0.137	0.142	1.00	0.138	pCi/L	10/16/19 07:28	11/07/19 12:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.8*		*40 - 110*	*10/16/19 07:28*	*11/07/19 12:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00445	U	0.273	0.273	1.00	0.481	pCi/L	10/16/19 08:00	10/31/19 17:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.8*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*
Y Carrier	*91.6*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.438	U	0.305	0.308	5.00	0.481	pCi/L		11/27/19 10:32	1

Client Sample ID: MW-313
Lab Sample ID: 310-167314-13

Date Collected: 10/10/19 14:36
Matrix: Water

Date Received: 10/12/19 09:45

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.968		0.197	0.216	1.00	0.160	pCi/L	10/16/19 07:28	11/07/19 12:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*10/16/19 07:28*	*11/07/19 12:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.736		0.329	0.336	1.00	0.475	pCi/L	10/16/19 08:00	10/31/19 17:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*
Y Carrier	*80.4*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.70		0.383	0.399	5.00	0.475	pCi/L		11/27/19 10:32	1

Client Sample ID: Field Blank
Lab Sample ID: 310-167314-14

Date Collected: 10/10/19 23:59
Matrix: Water
Date Received: 10/12/19 09:45

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.141**		0.0963	0.0971	1.00	0.137	pCi/L	10/16/19 07:28	11/07/19 12:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.4*		*40 - 110*	*10/16/19 07:28*	*11/07/19 12:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0591	U	0.228	0.228	1.00	0.421	pCi/L	10/16/19 08:00	10/31/19 17:38	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.4*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*
Y Carrier	*84.9*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.141	U	0.248	0.248	5.00	0.421	pCi/L		11/27/19 10:32	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-446365/17-A
Matrix: Water
Analysis Batch: 449488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446365

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.07342	U	0.0904	0.0906	1.00	0.150	pCi/L	10/16/19 07:28	11/07/19 12:45	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*10/16/19 07:28*	*11/07/19 12:45*	*1*

Lab Sample ID: LCS 160-446365/1-A
Matrix: Water
Analysis Batch: 452083

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446365

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	8.945		0.952	1.00	0.136	pCi/L	79	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*80.8*		*40 - 110*

Lab Sample ID: LCSD 160-446365/2-A
Matrix: Water
Analysis Batch: 449488

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446365

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	8.851		0.969	1.00	0.115	pCi/L	78	75 - 125	0.05	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*85.9*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-446409/17-A
Matrix: Water
Analysis Batch: 448507

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446409

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.09953	U	0.244	0.244	1.00	0.454	pCi/L	10/16/19 08:00	10/31/19 17:38	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*
Y Carrier	*81.5*		*40 - 110*	*10/16/19 08:00*	*10/31/19 17:38*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-446409/1-A
Matrix: Water
Analysis Batch: 448459

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446409

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.44	10.87		1.27	1.00	0.473	pCi/L	115	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*80.8*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: LCSD 160-446409/2-A
Matrix: Water
Analysis Batch: 448459

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446409

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.44	10.19		1.20	1.00	0.428	pCi/L	108	75 - 125	0.27	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*85.9*		*40 - 110*
Y Carrier	*80.7*		*40 - 110*

QC Association Summary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-2

Rad

Prep Batch: 446365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-1	MW-301	Total/NA	Water	PrecSep-21	
310-167314-2	MW-302	Total/NA	Water	PrecSep-21	
310-167314-3	MW-303	Total/NA	Water	PrecSep-21	
310-167314-4	MW-304	Total/NA	Water	PrecSep-21	
310-167314-5	MW-305	Total/NA	Water	PrecSep-21	
310-167314-6	MW-306	Total/NA	Water	PrecSep-21	
310-167314-7	MW-307	Total/NA	Water	PrecSep-21	
310-167314-8	MW-308	Total/NA	Water	PrecSep-21	
310-167314-9	MW-309	Total/NA	Water	PrecSep-21	
310-167314-10	MW-310	Total/NA	Water	PrecSep-21	
310-167314-11	MW-311	Total/NA	Water	PrecSep-21	
310-167314-12	MW-312	Total/NA	Water	PrecSep-21	
310-167314-13	MW-313	Total/NA	Water	PrecSep-21	
310-167314-14	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-446365/17-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-446365/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-446365/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 446409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-167314-1	MW-301	Total/NA	Water	PrecSep_0	
310-167314-2	MW-302	Total/NA	Water	PrecSep_0	
310-167314-3	MW-303	Total/NA	Water	PrecSep_0	
310-167314-4	MW-304	Total/NA	Water	PrecSep_0	
310-167314-5	MW-305	Total/NA	Water	PrecSep_0	
310-167314-6	MW-306	Total/NA	Water	PrecSep_0	
310-167314-7	MW-307	Total/NA	Water	PrecSep_0	
310-167314-8	MW-308	Total/NA	Water	PrecSep_0	
310-167314-9	MW-309	Total/NA	Water	PrecSep_0	
310-167314-10	MW-310	Total/NA	Water	PrecSep_0	
310-167314-11	MW-311	Total/NA	Water	PrecSep_0	
310-167314-12	MW-312	Total/NA	Water	PrecSep_0	
310-167314-13	MW-313	Total/NA	Water	PrecSep_0	
310-167314-14	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-446409/17-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-446409/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-446409/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-167314-2
Project/Site: Burlington Gen Station 25216066

Client Sample ID: MW-301
Lab Sample ID: 310-167314-1
Date Collected: 10/10/19 11:02
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:34	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448459	10/31/19 17:35	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: MW-302
Lab Sample ID: 310-167314-2
Date Collected: 10/10/19 12:12
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448459	10/31/19 17:35	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: MW-303
Lab Sample ID: 310-167314-3
Date Collected: 10/10/19 13:00
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:34	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448459	10/31/19 17:35	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: MW-304
Lab Sample ID: 310-167314-4
Date Collected: 10/10/19 13:44
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:34	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448459	10/31/19 17:35	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Lab Chronicle

Client: SCS Engineers
Job ID: 310-167314-2
Project/Site: Burlington Gen Station 25216066

Client Sample ID: MW-305
Lab Sample ID: 310-167314-5
Date Collected: 10/11/19 10:30
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448459	10/31/19 17:35	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: MW-306
Lab Sample ID: 310-167314-6
Date Collected: 10/11/19 11:16
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448507	10/31/19 17:37	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: MW-307
Lab Sample ID: 310-167314-7
Date Collected: 10/11/19 15:06
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448507	10/31/19 17:37	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: MW-308
Lab Sample ID: 310-167314-8
Date Collected: 10/10/19 10:08
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448507	10/31/19 17:38	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-2

Client Sample ID: MW-309
Date Collected: 10/11/19 09:44
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448507	10/31/19 17:38	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: MW-310
Date Collected: 10/11/19 08:02
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:35	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448507	10/31/19 17:38	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: MW-311
Date Collected: 10/11/19 08:54
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 09:36	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448507	10/31/19 17:38	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: MW-312
Date Collected: 10/10/19 15:22
Date Received: 10/12/19 09:45

Lab Sample ID: 310-167314-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 12:45	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448507	10/31/19 17:38	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Lab Chronicle

Client: SCS Engineers
Job ID: 310-167314-2
Project/Site: Burlington Gen Station 25216066

Client Sample ID: MW-313
Lab Sample ID: 310-167314-13
Date Collected: 10/10/19 14:36
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 12:45	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448507	10/31/19 17:38	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Client Sample ID: Field Blank
Lab Sample ID: 310-167314-14
Date Collected: 10/10/19 23:59
Matrix: Water
Date Received: 10/12/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			446365	10/16/19 07:28	EJQ	TAL SL
Total/NA	Analysis	903.0		1	449488	11/07/19 12:45	KLS	TAL SL
Total/NA	Prep	PrecSep_0			446409	10/16/19 08:00	EJQ	TAL SL
Total/NA	Analysis	904.0		1	448507	10/31/19 17:38	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	455420	11/27/19 10:32	SCB	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-167314-2
Project/Site: Burlington Gen Station 25216066

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State Program	007	12-01-19 *

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-19
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-19
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-19
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-19
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-20
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-20
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	02-02-20
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-20
Washington	State	C592	08-30-20
West Virginia DEP	State	381	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

eurofins | Environment Testing TestAmerica

310-167314 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA | Project: Burlington Gen Station

Receipt Information

Date/Time Received: DATE 10-12-19 TIME 945 | Received By: LMB

Delivery Type: ☐ UPS ☒ FedEx sat ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 1 of 3
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): +0.0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.5 | Corrected Temp (°C): 0.5

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA

Project: Burlington Gen Station

Receipt Information

Date/Time Received: DATE 10-12-19 TIME 945

Received By: LMB

Delivery Type: ☐ UPS ☒ FedEx sat ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 2 of 3
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N

Correction Factor (°C): +0.0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.1

Corrected Temp (°C): 0.1

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA | Project: Burlington Gen Station

Receipt Information

Date/Time Received: DATE 10-12-19 TIME 945 | Received By: LMB

Delivery Type: ☐ UPS ☒ FedEx sat ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 3 of 3
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): +0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.3 | Corrected Temp (°C): 1.3

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program Assessment Monitoring
Groundwater Monitoring - Burlington Generating Station / SCS Engineers Project #25216066

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	MW-312	MW-313	Field Blank	TOTAL
Appendix III Parameters	Boron	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Calcium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Chloride	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	pH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Sulfate	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	TDS	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
Appendix IV Parameters	Antimony	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Arsenic	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Barium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Beryllium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Cadmium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Chromium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Cobalt	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Lead	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Lithium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Mercury															0
	Molybdenum	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Selenium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
	Thallium															0
	Radium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
Field Parameters	Groundwater Elevation	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Well Depth	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	pH (field)	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Specific Conductance	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	ORP	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Temperature	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Turbidity	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Color	x	x	x	x	x	x	x	x	x	x	x	x	x		13
	Odor	x	x	x	x	x	x	x	x	x	x	x	x	x		13

Notes: All samples are unfiltered (total).

I:\25219066.00\Data and Calculations\Field Work Requests\[Table_1_BGS_CCR_Rule_Sampling_1910.xls]Sheet1

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins | Environment Testing TestAmerica

43647

Client Information	Sampler: Louise Jennings	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-43667-14046.1
Client Contact: Louise Jennings	Phone: 608 509 8245	E-Mail: sandie.fredrick@testamericainc.com		Page: Page 1 of 2
Company: SCS Engineers				Job #:
Address: 8450 Hickman Road Suite 20	Due Date Requested:			
City: Clive	TAT Requested (days): Standard			
State, Zip: IA, 50325				
Phone:	PO #: 25216066			
Email: ljennings@scsengineers.com	WO #:			
Project Name: Burlington Gen Station 25216066	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals - Hg	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	D		
MW-301	10.10.19	1102	G	Water			X	X	X	X		
MW-302	10.10.19	1212	G	Water								
MW-303	10/10/19	1300	G	Water								
MW-304	10.10.19	1344	G	Water								
MW-305	10.11.19	1030	G	Water								
MW-306	10.11.19	1116	G	Water								
MW-307	10.11.19	1206	G	Water								
MW-308	10.10.19	1008	G	Water								
MW-309	10.11.19	0944	G	Water								
MW-310	10.11.19	0902	G	Water								
MW-311	10.11.19	0854	G	Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10.11.19 16:15	SCS	Lindsay Binder	10-12-19 945	ETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC 214

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Louise Jennings	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-43667-14046.2
Client Contact: Louise Jennings	Phone: 608 509 8945	E-Mail: sandie.fredrick@testamericainc.com		Page: Page 2 of 2
Company: SCS Engineers				Job #:
Address: 8450 Hickman Road Suite 20	Due Date Requested:			
City: Clive	TAT Requested (days): Standard			
State, Zip: IA, 50325				
Phone:	PO #: 25216066			
Email: ljennings@scsengineers.com	WO #:			
Project Name: Burlington Gen Station 25216066	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals - Hg	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	D	X	
MW-312	10.10.19	1522	G	Water								
MW-313	10.10.19	1436	G	Water								
Field Blank	10.10.19	2359	—	Water								
				Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	10.11.19 1615		Lindsay Burdett	10-12-19 945	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
MW-301	310-167314-A-1	Plastic 250ml - with Nitric Acid	<2		
MW-301	310-167314-B-1	Plastic 1 liter - Nitric Acid	<2		
MW-301	310-167314-C-1	Plastic 1 liter - Nitric Acid	<2		
MW-302	310-167314-A-2	Plastic 250ml - with Nitric Acid	<2		
MW-302	310-167314-B-2	Plastic 1 liter - Nitric Acid	<2		
MW-302	310-167314-C-2	Plastic 1 liter - Nitric Acid	<2		
MW-303	310-167314-A-3	Plastic 250ml - with Nitric Acid	<2		
MW-303	310-167314-B-3	Plastic 1 liter - Nitric Acid	<2		
MW-303	310-167314-C-3	Plastic 1 liter - Nitric Acid	<2		
MW-304	310-167314-A-4	Plastic 250ml - with Nitric Acid	<2		
MW-304	310-167314-B-4	Plastic 1 liter - Nitric Acid	<2		
MW-304	310-167314-C-4	Plastic 1 liter - Nitric Acid	<2		
MW-305	310-167314-A-5	Plastic 250ml - with Nitric Acid	<2		
MW-305	310-167314-B-5	Plastic 1 liter - Nitric Acid	<2		
MW-305	310-167314-C-5	Plastic 1 liter - Nitric Acid	<2		
MW-306	310-167314-A-6	Plastic 250ml - with Nitric Acid	<2		
MW-306	310-167314-B-6	Plastic 1 liter - Nitric Acid	<2		
MW-306	310-167314-C-6	Plastic 1 liter - Nitric Acid	<2		
MW-307	310-167314-A-7	Plastic 250ml - with Nitric Acid	<2		
MW-307	310-167314-B-7	Plastic 1 liter - Nitric Acid	<2		
MW-307	310-167314-C-7	Plastic 1 liter - Nitric Acid	<2		
MW-308	310-167314-A-8	Plastic 250ml - with Nitric Acid	<2		
MW-308	310-167314-B-8	Plastic 1 liter - Nitric Acid	<2		
MW-308	310-167314-C-8	Plastic 1 liter - Nitric Acid	<2		
MW-309	310-167314-A-9	Plastic 250ml - with Nitric Acid	<2		
MW-309	310-167314-B-9	Plastic 1 liter - Nitric Acid	<2		
MW-309	310-167314-C-9	Plastic 1 liter - Nitric Acid	<2		
MW-310	310-167314-A-10	Plastic 250ml - with Nitric Acid	<2		
MW-310	310-167314-B-10	Plastic 1 liter - Nitric Acid	<2		
MW-310	310-167314-C-10	Plastic 1 liter - Nitric Acid	<2		
MW-311	310-167314-A-11	Plastic 250ml - with Nitric Acid	<2		
MW-311	310-167314-B-11	Plastic 1 liter - Nitric Acid	<2		
MW-311	310-167314-C-11	Plastic 1 liter - Nitric Acid	<2		
MW-312	310-167314-A-12	Plastic 250ml - with Nitric Acid	<2		
MW-312	310-167314-B-12	Plastic 1 liter - Nitric Acid	<2		
MW-312	310-167314-C-12	Plastic 1 liter - Nitric Acid	<2		
MW-313	310-167314-A-13	Plastic 250ml - with Nitric Acid	<2		

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
MW-313	310-167314-B-13	Plastic 1 liter - Nitric Acid	<2		
MW-313	310-167314-C-13	Plastic 1 liter - Nitric Acid	<2		
Field Blank	310-167314-A-14	Plastic 250ml - with Nitric Acid	<2		
Field Blank	310-167314-B-14	Plastic 1 liter - Nitric Acid	<2		
Field Blank	310-167314-C-14	Plastic 1 liter - Nitric Acid	<2		

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-167314-2
SDG Number:

Login Number: 167314
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-167314-2
SDG Number:

Login Number: 167314
List Number: 2
Creator: Harris, Lorin C

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/15/19 01:12 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: Burlington Gen Station 25216066

Job ID: 310-167314-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)
310-167314-1	MW-301	78.2
310-167314-2	MW-302	82.8
310-167314-3	MW-303	82.2
310-167314-4	MW-304	71.8
310-167314-5	MW-305	73.2
310-167314-6	MW-306	65.8
310-167314-7	MW-307	83.1
310-167314-8	MW-308	99.7
310-167314-9	MW-309	92.4
310-167314-10	MW-310	106
310-167314-11	MW-311	95.5
310-167314-12	MW-312	89.8
310-167314-13	MW-313	87.3
310-167314-14	Field Blank	90.4
LCS 160-446365/1-A	Lab Control Sample	80.8
LCSD 160-446365/2-A	Lab Control Sample Dup	85.9
MB 160-446365/17-A	Method Blank	91.2

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)	Y Carrier (40-110)
310-167314-1	MW-301	78.2	88.2
310-167314-2	MW-302	82.8	93.1
310-167314-3	MW-303	82.2	82.2
310-167314-4	MW-304	71.8	83.4
310-167314-5	MW-305	73.2	82.2
310-167314-6	MW-306	65.8	83.7
310-167314-7	MW-307	83.1	75.5
310-167314-8	MW-308	99.7	82.2
310-167314-9	MW-309	92.4	81.5
310-167314-10	MW-310	106	96.1
310-167314-11	MW-311	95.5	92.0
310-167314-12	MW-312	89.8	91.6
310-167314-13	MW-313	87.3	80.4
310-167314-14	Field Blank	90.4	84.9
LCS 160-446409/1-A	Lab Control Sample	80.8	85.2
LCSD 160-446409/2-A	Lab Control Sample Dup	85.9	80.7
MB 160-446409/17-A	Method Blank	91.2	81.5

Tracer/Carrier Legend

Ba Carrier = Ba Carrier
Y Carrier = Y Carrier

Appendix B

Alternative Source Demonstration

Alternative Source Demonstration Assessment Monitoring

Burlington Generating Station
Burlington, Iowa

Prepared for:

SCS ENGINEERS

25219066.00 | April 15, 2019

2830 Dairy Drive
Madison, WI 53718-6751
608-224-2830

Table of Contents

Section Page

Tables

Figures

Appendices

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PE CERTIFICATION

I, Eric J. Nelson, hereby certify that that the information in this alternate source demonstration is accurate and meets the requirements of 40 CFR 257.95(g)(3). This certification is based on my review of the groundwater data and related site information available for the Burlington Generating Station. I am a duly licensed Professional Engineer under the laws of the State of Iowa.

4/14/2019

(signature) (date)

Eric J. Nelson

(printed or typed name)

License number 23136

My license renewal date is December 31, 2020.

Pages or sheets covered by this seal:
Alternative Source Demonstration

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1.0 INTRODUCTION

This Alternative Source Demonstration (ASD) was prepared to support compliance with the groundwater monitoring requirements of the "Coal Combustion Residuals (CCR) Final Rule" published by the U.S. Environmental Protection Agency (USEPA) in the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, dated April 17, 2015 (USEPA, 2015), and subsequent amendments. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.95(g)(3)(ii). The applicable sections of the Rule are provided below in *italics*.

1.1 §257.95(G)(3) ALTERNATIVE SOURCE DEMONSTRATION REQUIREMENTS

(3) Within 90 days of finding that any of the constituents listed in appendix IV to this part have been detected at a statistically significant level exceeding the groundwater protection standards the owner or operator must either:

(i) Initiate an assessment of corrective measures as required by § 257.96; or

(ii) Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in Appendix III and Appendix IV of this part are at or below background as specified in paragraph (e) of this section. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority.

This ASD was performed in response to results indicating that constituents listed in appendix IV had been detected at a statistically significant level exceeding the groundwater protection standards (GPSs) during assessment monitoring under the CCR Rule at the Burlington Generating Station (BGS). GPS exceedances for assessment monitoring performed in 2018 were reported to Alliant Energy by SCS Engineers on January 14, 2019.

This ASD documents that some of the wells and parameters identified as exceeding GPSs in the January 2019 correspondence did not exceed the GPS at a statistically significant level based on additional testing and statistical evaluation.

1.2 SITE INFORMATION AND MAP

BGS is located along the west bank of the Mississippi River, about 5 miles south of the city of Burlington, in Des Moines County, Iowa. The postal address of the plant is 4282 Sullivan Slough Road, Burlington, Iowa. In addition to the coal-fired generating plant, the property also contains a

coal stockpile, an Eco-Stone (C Stone) storage area, upper ash pond, lower pond, economizer ash pond, bottom ash pond, and ash seal and storm water pond.

The groundwater monitoring system at BGS is a multi-unit system. BGS includes four existing CCR Units:

- BGS Ash Seal Pond (existing CCR surface impoundment)
- BGS Main Ash Pond (existing CCR surface impoundment)
- BGS Economizer Ash Pond (existing CCR surface impoundment)
- BGS Upper Ash Pond (existing CCR surface impoundment)

A map showing the CCR Units and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR groundwater monitoring program is provided as **Figure 1**.

1.3 GROUNDWATER PROTECTION STANDARD EXCEEDANCES IDENTIFIED

GPS exceedances were identified in the January 14, 2019, correspondence for the following wells and parameters:

- Lithium: MW-302, MW-303, MW-304, MW-306, MW-307, MW-308
- Molybdenum: MW-301, MW-302, MW-304, MW-307, MW-308

This initial evaluation of the assessment monitoring results was based on the first three sampling events for the Appendix IV assessment monitoring parameters. Samples were collected in May, August, and October 2018. For each of the well-parameter pairs listed above, at least one of the three results exceeded the GPS.

2.0 RETESTING AND ADDITIONAL STATISTICAL EVALUATION

For comparison of assessment monitoring data to fixed GPS values, the USEPA's Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (EPA 530-R-09-007, March 2009) recommends the use of confidence intervals. Specifically, the suggested approach for comparing assessment groundwater monitoring data to GPS values based on long-term chronic health risk, such as drinking water Maximum Contaminant Levels (MCLs), is to compare the lower confidence limit around the arithmetic mean with the fixed GPS. Although a confidence interval approach is recommended, a minimum of four samples are required for this approach, and only three assessment monitoring compliance samples had been collected at the time of the January 2019 evaluation; therefore, the initial evaluation presented a direct comparison of the results to the GPS values.

To allow comparison of the lower confidence limit of the mean to the GPS, additional samples were collected from the wells for which individual sample results had exceeded the GPS in the three initial assessment monitoring events. The additional samples were collected in March 2019, so the four sampling events fell within 1 year (May 2018 to March 2019) and provided some representation of seasonal variability in constituent concentrations.

The results for the four sampling events are summarized in **Table 1** for lithium and in **Table 2** for molybdenum. The laboratory reports for the first three events were included in the 2018 Annual Groundwater Monitoring and Corrective Action Report. The laboratory report for the March 2019 event is provided in **Appendix A**.

For each well-parameter pair that was tested, the calculated mean concentration and the lower confidence limit for the mean are shown in Tables 1 and 2. For lithium, the lower confidence limit for the mean was below the GPS for wells MW-303, MW-304, and MW-306. For molybdenum, both the mean and the lower confidence limit for the mean were below the GPS for wells MW-301 and MW-304. Based on these comparisons, a statistically significant exceedance of the GPS has not occurred for these wells and parameters.

3.0 ASD CONCLUSIONS

Based on the findings of the retesting and statistical evaluation, the number of well-parameter pairs for which appendix IV constituents are present at a statistically significant level exceeding the GPSs was reduced to the following:

- Lithium: MW-302, MW-307, MW-308
- Molybdenum: MW-302, MW-307, MW-308

Although the ASD reduced the number of well-parameter pairs exceeding GPSs, IPL must initiate an assessment of corrective measures based on the exceedances for the wells and parameters listed above.

4.0 REFERENCES

SCS Engineers, 2019a, 2018 Annual Groundwater Monitoring and Corrective Action Report, Burlington Generating Station, January 2019.

SCS Engineers, 2019b, Assessment Groundwater Monitoring – Statistical Evaluation, Burlington Generating Station, January 14, 2019.

U.S. Environmental Protection Agency (USEPA), 2009, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, EPA 530-R-09-007, March 2009.

Tables

Table 1
Assessment Monitoring Results with March 2019 Retest Event - Lithium
IPL - Burlington Generating Station

			Assessment Monitoring Results with Retest						
Monitoring Well	**Units**	**Groundwater Protection Standard (GPS)**	**5/8/2018 and 5/9/2018**	**8/13/2018 and 8/14/2018**	**10/9/2018 and 10/10/2018**	**3/11/2019 and 3/12/2019**	**Mean**	**Lower Confidence Limit for Mean (α = 95%)**	**LCL Exceeds GPS?**
MW-302	ug/L	40	65.4	61.4	57.8	59.9	61.1	58.0	**YES**
MW-303	ug/L	40	50.7	42.1	35.8	51.6	45.1	38.7	NO
MW-304	ug/L	40	63.8	34.3	82.4	35.9	54.1	34.4	NO
MW-306	ug/L	40	36.6	46.8	41.4	39.2	41.0	37.3	NO
MW-307	ug/L	40	47.8	56.1	45.4	50.7	50.0	46.1	**YES**
MW-308	ug/L	40	46.0	52.0	43.6	48.9	47.6	44.5	**YES**

created by: SCC 4/12/19
checked by: TK 4/13/19

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Table 2
Assessment Monitoring Results with March 2019 Retest Event - Molybbdenum
IPL - Burlington Generating Station

			Assessment Monitoring Results with Retest						
Monitoring Well	**Units**	**Groundwater Protection Standard (GPS)**	**5/8/2018 and 5/9/2018**	**8/13/2018 and 8/14/2018**	**10/9/2018 and 10/10/2018**	**3/11/2019 and 3/12/2019**	**Mean**	**Lower Confidence Limit for Mean (α = 95%)**	**LCL Exceeds GPS?**
MW-301	ug/L	100	113	81.7	120	62.7	94.4	68.0	NO
MW-302	ug/L	100	118	121	122	123	121	119	**YES**
MW-304	ug/L	100	126	74.9	113	47.4	90.3	59.9	NO
MW-307	ug/L	100	154	155	159	156	156	154	**YES**
MW-308	ug/L	100	140	140	145	135	140	137	**YES**

created by: SCC 4/12/19
checked by: TK 4/13/19

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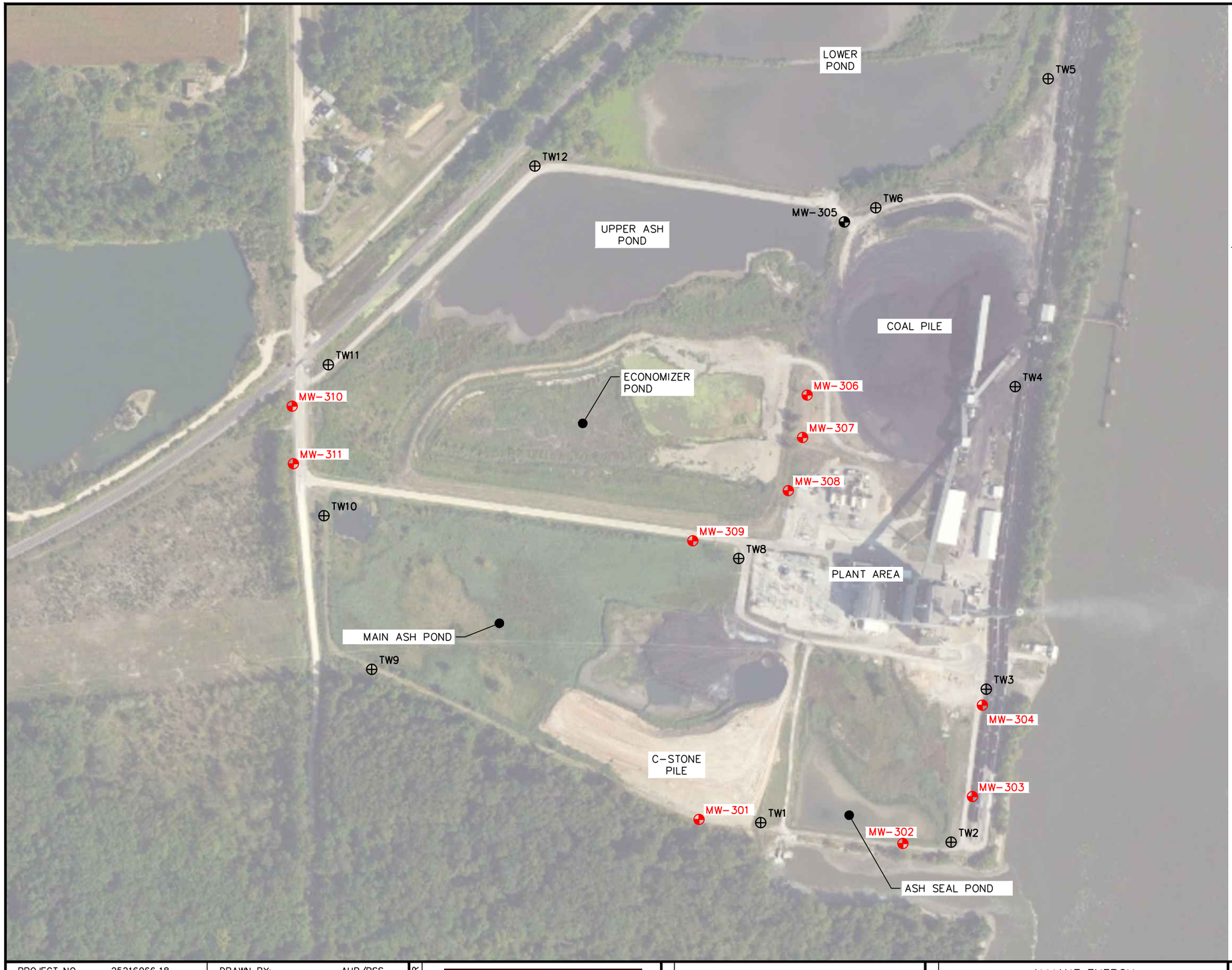
Figures



LEGEND

- EXISTING MONITORING WELL LOCATION
- TEMPORARY MONITORING WELL LOCATION (ABANDONED MARCH 2016)
- EXISTING CCR RULE MONITORING WELL

NOTES:

1. TEMPORARY WELLS TW-1 THROUGH TW-6 AND TW-8 THROUGH TW-12 WERE INSTALLED BY DIRECT PUSH ANALYTICAL SERVICES CORP. UNDER THE SUPERVISION OF SCS ENGINEERS ON OCTOBER 20 AND 21, 2015. WELL TW-7 WAS NOT INSTALLED.
2. MONITORING WELLS MW-303 THROUGH MW-308 WERE INSTALLED BY CASCADE DRILLING, LLP. UNDER THE SUPERVISION OF SCS ENGINEERS ON DECEMBER 15-17, 2015.
3. MONITORING WELLS MW301, MW302, AND MW309-MW311 WERE INSTALLED BY DIRECT PUSH ANALYTICAL SERVICES CORP. UNDER THE SUPERVISION OF SCS ENGINEERS FROM FEBRUARY 29, 2016 TO MARCH 1, 2016.
5. TEMPORARY WELLS TW-1 THROUGH TW-6 AND TW-8 THROUGH TW-12 WERE SURVEYED BY FRENCH RENEKER-ASSOCIATES OF FRANKLIN, IA ON DECEMBER 7, 2015. THESE WELLS WERE ABANDONED ON MARCH 2, 2016.
6. MONITORING WELLS MW-301 THROUGH MW-311 WERE SURVEYED BY FRENCH-RENEKER ASSOCIATES OF FRANKLIN, IA ON MARCH 16, 2016.

N

300 0 300

SCALE: 1" = 300'

PROJECT NO.	25216066.18	DRAWN BY:	AHB/BSS
DRAWN:	04/01/16	CHECKED BY:	NK
REVISED:	01/10/19	APPROVED BY:	TK

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: ALLIANT ENERGY
4902 N. BILTMORE LANE, #1000
MADISON, WI 53718

SITE: ALLIANT ENERGY
BURLINGTON GENERATING STATION
BURLINGTON, IOWA

SITE PLAN AND MONITORING WELL LOCATIONS

FIGURE 1

I:\25216066.00\Drawings\CCR 201□Annual Rpt.dwg, 1/10/2019 6:16:□□PM

Appendix A

Analytical Laboratory Report– March 2019 Retesting

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

March 18, 2019

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: BURLINGTON
Pace Project No.: 60296621

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on March 13, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Hank Kapka
hank.kapka@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Tom Karwaski, SCS Engineers
Nicole Kron, SCS Engineers
Jeff Maxted, Alliant Energy
Jess Valcheff, SCS Engeineers

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(913)599-5665

CERTIFICATIONS

Project: BURLINGTON
Pace Project No.: 60296621

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Certification Number: 10090
Arkansas Drinking Water
WY STR Certification #: 2456.01
Arkansas Certification #: 18-016-0
Arkansas Drinking Water
Illinois Certification #: 004455
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116 / E10426
Louisiana Certification #: 03055
Nevada Certification #: KS000212018-1
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-18-11
Utah Certification #: KS000212018-8
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070
Missouri Certification Number: 10090

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: BURLINGTON
Pace Project No.: 60296621

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60296621001	**MW-301**	Water	03/12/19 09:37	03/13/19 08:30
60296621002	**MW-302**	Water	03/12/19 10:28	03/13/19 08:30
60296621003	**MW-303**	Water	03/12/19 11:08	03/13/19 08:30
60296621004	**MW-304**	Water	03/12/19 11:41	03/13/19 08:30
60296621005	**MW-306**	Water	03/11/19 17:05	03/13/19 08:30
60296621006	**MW-307**	Water	03/11/19 16:33	03/13/19 08:30
60296621007	**MW-308**	Water	03/12/19 09:01	03/13/19 08:30
60296621008	**FIELD BLANK**	Water	03/12/19 08:00	03/13/19 08:30

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SAMPLE ANALYTE COUNT

Project: BURLINGTON
Pace Project No.: 60296621

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60296621001	**MW-301**	EPA 6020	JGP	1	PASI-K
60296621002	**MW-302**	EPA 6010	JDE	1	PASI-K
		EPA 6020	JGP	1	PASI-K
60296621003	**MW-303**	EPA 6010	JDE	1	PASI-K
60296621004	**MW-304**	EPA 6010	JDE	1	PASI-K
		EPA 6020	JGP	1	PASI-K
60296621005	**MW-306**	EPA 6010	JDE	1	PASI-K
60296621006	**MW-307**	EPA 6010	JDE	1	PASI-K
		EPA 6020	JGP	1	PASI-K
60296621007	**MW-308**	EPA 6010	JDE	1	PASI-K
		EPA 6020	JGP	1	PASI-K
60296621008	**FIELD BLANK**	EPA 6010	JDE	1	PASI-K
		EPA 6020	JGP	1	PASI-K

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60296621

Sample: MW-301 **Lab ID: 60296621001** Collected: 03/12/19 09:37 Received: 03/13/19 08:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		03/12/19 09:37		
Collected Date	**3/12/2019**				1		03/12/19 09:37		
Collected Time	**0937**				1		03/12/19 09:37		
Field pH	**6.38**	Std. Units	0.10	0.050	1		03/12/19 09:37		
Field Temperature	**12.56**	deg C	0.50	0.25	1		03/12/19 09:37		
Field Specific Conductance	**1055**	umhos/cm	1.0	1.0	1		03/12/19 09:37		
Field Oxidation Potential	**-73.1**	mV			1		03/12/19 09:37		
Oxygen, Dissolved	**2.61**	mg/L			1		03/12/19 09:37	7782-44-7	
Turbidity	**17.10**	NTU	1.0	1.0	1		03/12/19 09:37		
Groundwater Elevation	**523.38**	feet			1		03/12/19 09:37		
6020 MET ICPMS	Analytical Method: EPA 6020	Preparation Method: EPA 3010							
Molybdenum	**62.7**	ug/L	1.0	0.57	1	03/14/19 11:30	03/15/19 11:34	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60296621

Sample: MW-302 **Lab ID: 60296621002** Collected: 03/12/19 10:28 Received: 03/13/19 08:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		03/12/19 10:28		
Collected Date	**3/12/2019**				1		03/12/19 10:28		
Collected Time	**1028**				1		03/12/19 10:28		
Field pH	**6.94**	Std. Units	0.10	0.050	1		03/12/19 10:28		
Field Temperature	**12.16**	deg C	0.50	0.25	1		03/12/19 10:28		
Field Specific Conductance	**792**	umhos/cm	1.0	1.0	1		03/12/19 10:28		
Field Oxidation Potential	**-70.3**	mV			1		03/12/19 10:28		
Oxygen, Dissolved	**2.68**	mg/L			1		03/12/19 10:28	7782-44-7	
Turbidity	**22.10**	NTU	1.0	1.0	1		03/12/19 10:28		
Groundwater Elevation	**522.83**	feet			1		03/12/19 10:28		
6010 MET ICP	Analytical Method: EPA 6010		Preparation Method: EPA 3010						
Lithium	**59.9**	ug/L	10.0	4.6	1	03/14/19 11:30	03/15/19 17:42	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020		Preparation Method: EPA 3010						
Molybdenum	**123**	ug/L	1.0	0.57	1	03/14/19 11:30	03/15/19 11:35	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60296621

Sample: MW-303 **Lab ID: 60296621003** Collected: 03/12/19 11:08 Received: 03/13/19 08:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		03/12/19 11:08		
Collected Date	**3/12/2019**				1		03/12/19 11:08		
Collected Time	**11:08**				1		03/12/19 11:08		
Field pH	**6.46**	Std. Units	0.10	0.050	1		03/12/19 11:08		
Field Temperature	**13.62**	deg C	0.50	0.25	1		03/12/19 11:08		
Field Specific Conductance	**549**	umhos/cm	1.0	1.0	1		03/12/19 11:08		
Field Oxidation Potential	**-68.1**	mV			1		03/12/19 11:08		
Oxygen, Dissolved	**2.38**	mg/L			1		03/12/19 11:08	7782-44-7	
Turbidity	**19.40**	NTU	1.0	1.0	1		03/12/19 11:08		
Groundwater Elevation	**522.74**	feet			1		03/12/19 11:08		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lithium	**51.6**	ug/L	10.0	4.6	1	03/14/19 11:30	03/15/19 17:44	7439-93-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60296621

Sample: MW-304 **Lab ID: 60296621004** Collected: 03/12/19 11:41 Received: 03/13/19 08:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		03/12/19 11:41		
Collected Date	**3/12/2019**				1		03/12/19 11:41		
Collected Time	**1141**				1		03/12/19 11:41		
Field pH	**6.94**	Std. Units	0.10	0.050	1		03/12/19 11:41		
Field Temperature	**13.87**	deg C	0.50	0.25	1		03/12/19 11:41		
Field Specific Conductance	**460**	umhos/cm	1.0	1.0	1		03/12/19 11:41		
Field Oxidation Potential	**-73.8**	mV			1		03/12/19 11:41		
Oxygen, Dissolved	**2.11**	mg/L			1		03/12/19 11:41	7782-44-7	
Turbidity	**9.28**	NTU	1.0	1.0	1		03/12/19 11:41		
Groundwater Elevation	**522.80**	feet			1		03/12/19 11:41		
6010 MET ICP	Analytical Method: EPA 6010		Preparation Method: EPA 3010						
Lithium	**35.9**	ug/L	10.0	4.6	1	03/14/19 11:30	03/15/19 17:46	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020		Preparation Method: EPA 3010						
Molybdenum	**47.4**	ug/L	1.0	0.57	1	03/14/19 11:30	03/15/19 11:36	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60296621

Sample: MW-306 **Lab ID: 60296621005** Collected: 03/11/19 17:05 Received: 03/13/19 08:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		03/11/19 17:05		
Collected Date	**03/11/19**				1		03/11/19 17:05		
Collected Time	**17:05:00**				1		03/11/19 17:05		
Field pH	**6.27**	Std. Units	0.10	0.050	1		03/11/19 17:05		
Field Temperature	**14.27**	deg C	0.50	0.25	1		03/11/19 17:05		
Field Specific Conductance	**343**	umhos/cm	1.0	1.0	1		03/11/19 17:05		
Field Oxidation Potential	**-88.9**	mV			1		03/11/19 17:05		
Oxygen, Dissolved	**0.80**	mg/L			1		03/11/19 17:05	7782-44-7	
Turbidity	**0.56**	NTU	1.0	1.0	1		03/11/19 17:05		
Groundwater Elevation	**523.21**	feet			1		03/11/19 17:05		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lithium	**39.2**	ug/L	10.0	4.6	1	03/14/19 11:30	03/15/19 17:48	7439-93-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60296621

Sample: MW-307 **Lab ID: 60296621006** Collected: 03/11/19 16:33 Received: 03/13/19 08:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		03/11/19 16:33		
Collected Date	**3/11/2019**				1		03/11/19 16:33		
Collected Time	**1633**				1		03/11/19 16:33		
Field pH	**9.71**	Std. Units	0.10	0.050	1		03/11/19 16:33		
Field Temperature	**14.36**	deg C	0.50	0.25	1		03/11/19 16:33		
Field Specific Conductance	**367**	umhos/cm	1.0	1.0	1		03/11/19 16:33		
Field Oxidation Potential	**-78.3**	mV			1		03/11/19 16:33		
Oxygen, Dissolved	**1.07**	mg/L			1		03/11/19 16:33	7782-44-7	
Turbidity	**1.05**	NTU	1.0	1.0	1		03/11/19 16:33		
Groundwater Elevation	**523.49**	feet			1		03/11/19 16:33		
6010 MET ICP	Analytical Method: EPA 6010		Preparation Method: EPA 3010						
Lithium	**50.7**	ug/L	10.0	4.6	1	03/14/19 11:30	03/15/19 17:51	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020		Preparation Method: EPA 3010						
Molybdenum	**156**	ug/L	1.0	0.57	1	03/14/19 11:30	03/15/19 11:40	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60296621

Sample: MW-308 **Lab ID: 60296621007** Collected: 03/12/19 09:01 Received: 03/13/19 08:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		03/12/19 09:01		
Collected Date	**03/12/19**				1		03/12/19 09:01		
Collected Time	**09:01:00**				1		03/12/19 09:01		
Field pH	**7.72**	Std. Units	0.10	0.050	1		03/12/19 09:01		
Field Temperature	**14.06**	deg C	0.50	0.25	1		03/12/19 09:01		
Field Specific Conductance	**500**	umhos/cm	1.0	1.0	1		03/12/19 09:01		
Field Oxidation Potential	**-60.7**	mV			1		03/12/19 09:01		
Oxygen, Dissolved	**2.57**	mg/L			1		03/12/19 09:01	7782-44-7	
Turbidity	**1.68**	NTU	1.0	1.0	1		03/12/19 09:01		
Groundwater Elevation	**523.13**	feet			1		03/12/19 09:01		
6010 MET ICP	Analytical Method: EPA 6010		Preparation Method: EPA 3010						
Lithium	**48.9**	ug/L	10.0	4.6	1	03/14/19 11:30	03/15/19 17:53	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020		Preparation Method: EPA 3010						
Molybdenum	**135**	ug/L	1.0	0.57	1	03/14/19 11:30	03/15/19 11:41	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60296621

Sample: FIELD BLANK **Lab ID: 60296621008** Collected: 03/12/19 08:00 Received: 03/13/19 08:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lithium	**<4.6**	ug/L	10.0	4.6	1	03/14/19 11:30	03/15/19 17:55	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Molybdenum	**<0.57**	ug/L	1.0	0.57	1	03/14/19 11:30	03/15/19 12:00	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60296621

QC Batch: 573639 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60296621002, 60296621003, 60296621004, 60296621005, 60296621006, 60296621007, 60296621008

METHOD BLANK: 2352852 Matrix: Water
Associated Lab Samples: 60296621002, 60296621003, 60296621004, 60296621005, 60296621006, 60296621007, 60296621008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lithium	ug/L	<4.6	10.0	4.6	03/15/19 17:29	

LABORATORY CONTROL SAMPLE: 2352853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	1000	989	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2352854 2352855

Parameter	Units	60296423001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	ug/L	30.8	1000	1000	1050	1050	102	102	75-125	0	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60296621

QC Batch: 573643 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60296621001, 60296621002, 60296621004, 60296621006, 60296621007, 60296621008

METHOD BLANK: 2352876 Matrix: Water
Associated Lab Samples: 60296621001, 60296621002, 60296621004, 60296621006, 60296621007, 60296621008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Molybdenum	ug/L	<0.57	1.0	0.57	03/15/19 11:25	

LABORATORY CONTROL SAMPLE: 2352877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	40	36.9	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2352878 2352879

Parameter	Units	60296495004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	ND	40	40	38.7	36.9	96	92	75-125	5	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BURLINGTON
Pace Project No.: 60296621

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.

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

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURLINGTON
Pace Project No.: 60296621

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60296621001	**MW-301**		573633		
60296621002	**MW-302**		573633		
60296621003	**MW-303**		573633		
60296621004	**MW-304**		573633		
60296621005	**MW-306**		573633		
60296621006	**MW-307**		573633		
60296621007	**MW-308**		573633		
60296621002	**MW-302**	EPA 3010	573639	EPA 6010	573741
60296621003	**MW-303**	EPA 3010	573639	EPA 6010	573741
60296621004	**MW-304**	EPA 3010	573639	EPA 6010	573741
60296621005	**MW-306**	EPA 3010	573639	EPA 6010	573741
60296621006	**MW-307**	EPA 3010	573639	EPA 6010	573741
60296621007	**MW-308**	EPA 3010	573639	EPA 6010	573741
60296621008	**FIELD BLANK**	EPA 3010	573639	EPA 6010	573741
60296621001	**MW-301**	EPA 3010	573643	EPA 6020	573737
60296621002	**MW-302**	EPA 3010	573643	EPA 6020	573737
60296621004	**MW-304**	EPA 3010	573643	EPA 6020	573737
60296621006	**MW-307**	EPA 3010	573643	EPA 6020	573737
60296621007	**MW-308**	EPA 3010	573643	EPA 6020	573737
60296621008	**FIELD BLANK**	EPA 3010	573643	EPA 6020	573737

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Sample Condition Upon Receipt

WO# : 60296621

60296621

Client Name: SCS

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 4506 2681 8782 Pace Shipping Label Used? Yes ☑ No ☐

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☑ Other ☐

Thermometer Used: T-298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 4.7 **Corr. Factor** -0.1 **Corrected** 4.6

Date and initials of person examining contents: 3/13/19 AS

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: wt	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☐Yes ☐No ☑N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☑Yes ☐No ☐N/A	
Headspace in VOA vials (>6mm): AS 3/13/19	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Hank
04:32 pm,Mar 13,2019
Kapka

Project Manager Review: _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

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Page: of

Section A Required Client Information:

Company:	SCS Engineers
Address:	2830 Dairy Drive
	Madison WI 53718
Email To:	mblodgett@scsengineers.com
Phone: 608-216-7362	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Meghan Blodgett
Copy To:	Tom Karwaski
Purchase Order No.:	
Project Name:	Burlington
Project Number:	25216066.18

Section C Invoice Information:

Attention:	Meghan Blodgett/Jess Valcheff
Company Name:	SCS Engineers
Address:	
Pace Quote Reference:	
Pace Project Manager:	Trudy Gipson 913-563-1405
Pace Profile #:	6696 Line 2

REGULATORY AGENCY

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

Site Location STATE: IA

Section D Required Client Information

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

Valid Matrix Codes

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

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	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	Analysis Test Y/N	6010; Li	6020; Mo															Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																			N	N	N											
1	MW-301	WT	G	xxx	xxx	3/12	0937		1			1								X	BPBN											001
2	MW-302	WT	G	xxx	xxx	3/12	1028		1			1							X	X	↓												002
3	MW-303	WT	G	xxx	xxx	3/12	1108		1			1							X		↓												003
4	MW-304	WT	G	xxx	xxx	3/12	1141		1			1							X	X	↓												004
5																																	
6	MW-306	WT	G	xxx	xxx	3/11	1705		1			1							X		BPBN												005
7	MW-307	WT	G	xxx	xxx	3/11	1633		1			1							X	X	↓												006
8	MW-308	WT	G	xxx	xxx	3/12	0901		1			1							X	X	↓												007
9	Field Blank					3/12	0800		1	1									X	X	BPBN												008
10																																	
11																																	
12																																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Nick Schemmel / SCS	3/12	1310	[signature] / Pace	3/13/12	0830	4.6	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl										

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:						
SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY):					

*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-Q-020rev.07, 15-Feb-2007

Appendix C

Demonstration of Need for ACM Deadline Extension

July 10, 2019
File No. 25218201.00

Ms. Robin Nelson
Interstate Power and Light Company
4282 Sullivan Slough Road
Burlington, IA 52601

Subject: Demonstration of Need for Deadline Extension
Assessment of Corrective Measures
Burlington Generating Station, Burlington, Iowa

Dear Ms. Nelson:

In accordance with 40 CFR 257.96(a), Interstate Power and Light Company (IPL) has initiated an Assessment of Corrective Measures (ACM) for the Burlington Generating Station. The ACM was initiated on April 15, 2019, in response to detections of constituents in Appendix IV to 40 CFR Part 257 at statistically significant levels above the groundwater protection standards (GPS) established under 40 CFR 257.95(h). As allowed under 40 CFR 257.96(a), this letter provides a demonstration that additional time beyond the 90-day deadline is needed to complete the ACM, and that the deadline may be extended by 60 days. Therefore, the ACM must be completed by September 13, 2019.

Demonstration of Need for Additional Time

Additional time is needed to complete the ACM in order to investigate the nature and extent of downgradient groundwater impacts and consider that information in preparing the ACM. The additional information obtained through further investigation of site conditions is important to the selection of suitable corrective measures and the evaluation of those corrective measures in meeting the requirements and objectives outlined in 40 CFR 257.96(c). Specifically, additional data about the nature and extent of groundwater impacts is needed to determine the current level of risk, evaluate the reduction of risk provided, and evaluate the implementation of potential corrective measures.

In January 2019, prior to initiating an ACM in April 2019, IPL began the process of designing, permitting, installing, and sampling additional groundwater monitoring wells to investigate the nature and extent of these constituents in groundwater, in accordance with 40 CFR 257.95(g)(1).

The following factors contributed to delays in the installation and sampling of the new wells, which in turn created the need for the extension of the ACM deadline by up to 60 days as allowed under 40 CFR 257.96(a):

- Permitting for the new wells included Federal, state, and local permit reviews related to floodplains, wetlands, and sovereign lands, which significantly delayed well installation.
- Drilling subcontractor schedules caused additional delays due to limited subcontractor availability and Iowa drilling licensing requirements.

Additional information regarding the nature and extent of groundwater impacts will provide further understanding of existing risks associated with the groundwater impacts identified at the Burlington Generating Station, which provides the basis for evaluating potential corrective measures as required under 40 CFR 257.96. While evaluation of the nature and extent of impacts may continue in parallel with the ACM and selection of remedy, extending the ACM deadline as allowed under the coal combustion residuals (CCR) rule will allow for the consideration of additional information and provide for a more complete ACM. Thus, the 60-day extension is needed.

As required by 40 CFR 257.96(a), a professional engineer's certification of the accuracy of this demonstration is enclosed.

PE Certification

As required by 40 CFR 257.96, I, Eric J. Nelson, hereby certify that this demonstration of need for the 60-day extension of the deadline for completing an Assessment of Corrective Measures is accurate. I am a duly licensed Professional Engineer under the laws of the State of Iowa.

7/10/2019

(signature) (date)

Eric J. Nelson

(printed or typed name)

License number 23136

My license renewal date is December 31, 2020.

Pages or sheets covered by this seal:

ACM - Demonstration of Need for Deadline Extension

Burlington Generating Station

Sincerely,

Eric J. Nelson, PE
Project Director
SCS Engineers

Thomas J. Karwoski
Senior Project Manager
SCS Engineers

EJN/AJR/SC

cc: Robert Huschak, Interstate Power and Light Company
Jeff Maxted, Alliant Energy

I:\25218201.00\Correspondence\Client\ACM Extension\190710_Nelson_BGS_ACM Ext_PE_Certification_Letter.docx