SCS ENGINEERS

2017 Annual Groundwater Monitoring and Corrective Action Report

Burlington Generating Station
Burlington, Iowa

Prepared for:

Alliant Energy

Prepared by:

SCS ENGINEERS
2830 Dairy Drive
Madison, Wisconsin 53718-6751
(608) 224-2830

January 31, 2018
File No. 25216066.17

Offices Nationwide
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1.0 INTRODUCTION

This 2017 Annual Groundwater Monitoring and Corrective Action Report 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). 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 2017 Annual Groundwater Monitoring and Corrective Action Report for the CCR Units.

This report covers the period of groundwater monitoring from April 21, 2016 through December 31, 2017. April 21, 2016 is the date of the first background sampling round. All future annual reports will cover the period from January 1 through December 31 of the previous year.

The groundwater monitoring system at the Burlington Generating Station is a multi-unit system. The Burlington Generating Station 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 consists of two upgradient and nine downgradient monitoring 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 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 1**.

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;

No new monitoring wells were installed and no wells were decommissioned as part of the groundwater monitoring program for the CCR units in 2017. The list below outlines the date of well installation for monitoring wells within the monitoring well network.

1/15-17/2015	MW-303, MW-304, MW-305, MW-306, MW-307, and MW-308
2/29/ 2016	MW-301 and MW-302
3/1/ 2016	MW-309, MW-310, and MW-311

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;

Eight groundwater samples were collected from each CCR monitoring well for the establishment of background. Background sampling began in April 2016 and concluded in August 2017. Background samples 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 **Appendices A1** through **A8**.

Detection monitoring was initiated at the site on October 17, 2017. The date of sample collection, field measurements, and the analytical results of the analytical laboratory analyses are provided in **Appendix A9**.

Assessment monitoring has not been initiated for the CCR Units at the Burlington Generating Station.

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);

Following completion of eight background groundwater monitoring events, detection monitoring was initiated in October 2017. There were no transitions between monitoring programs or statistically significant increase (SSI) determinations completed in 2017.

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 2017 Annual Groundwater Monitoring and Corrective Action Report for the CCR Units.

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 detection monitoring.

Summary of Key Actions Completed. Collection of background groundwater quality data was completed, and the initial detection monitoring sampling and analysis event was completed.

Description of Any Problems Encountered: In results for the fourth background sampling event, conducted in October 2016, several metals were reported in the field blank sample at much higher concentrations than expected for a field blank. The elevated metals concentrations included metals analyzed using EPA Methods 6010 and 6020. Results for other parameters, such as chloride, sulfate, and total dissolved solids, were in line with typical field blank results. The metals concentrations reported in the field blank were very similar to the metals concentrations reported in the sample from well MW-311, which was the sample analyzed immediately before the field blank sample. It is possible that the laboratory inadvertently ran the metals analysis on a second aliquot from MW-311 and reported it with the field blank results; however, this has not been confirmed. Based on the high concentrations and very high degree of similarity between the field blank and MW-311 metals results, and the low concentrations detected for other

parameters in the field blank samples, SCS believes it is likely that the field blank metals results reflect a laboratory analysis or sample labeling error rather than indicating potential cross-contamination during sampling. These results do not change the results for the monitoring well samples.

Discussion of Actions to Resolve the Problems. To minimize the potential for a similar issue in the future, SCS has discussed the field blank issue with the laboratory. SCS will also review field blank results on receipt so that questionable results can be addressed by retesting within allowable sample hold times when possible.

Projection of Key Activities for the Upcoming Year (2018):

- Statistical evaluation and determination of any SSIs for October 2017 monitoring event (by 1/15/18)
- If an SSI is determined, then within 90 days either
  - Complete alternative source demonstration (if applicable), or
  - Establish an assessment monitoring program
- Two semi-annual groundwater sampling and analysis events (April and October 2018)

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. No alternative detection monitoring frequency has been proposed.

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. No alternative source demonstration was completed in 2017.

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 not been initiated and no alternative assessment monitoring frequency has been proposed.

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).

Not Applicable. Assessment monitoring was not performed in 2017.

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.

Not Applicable. Assessment monitoring has not been initiated and no alternative source demonstration for assessment monitoring was completed in 2017.

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.

Not Applicable. Corrective measures assessment has not been initiated.

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TABLE 1

CCR Rule Groundwater Samples Summary

Table 1. CCR Rule Groundwater Samples Summary
Burlington Generating Station / SCS Engineers Project #25216066

	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-310	MW-311
4/20-21/2016	B	B	B	B	B	B	B	B	B	B	B
6/6-7/2016	B	B	B	B	B	B	B	B	B	B	B
8/16-17/2016	B	B	B	B	B	B	B	B	B	B	B
10/03/16	B	B	B	B	B	B	B	B	B	B	B
1/9-10/2017	B	B	B	B	B	B	B	B	B	B	B
4/3-4/2017	B	B	B	B	B	B	B	B	B	B	B
6/12-13/2017	B	B	B	B	B	B	B	B	B	B	B
8/15-16/2017	B	B	B	B	B	B	B	B	B	B	B
10/16-17/2017	D	D	D	D	D	D	D	D	D	D	D
Total Samples	9	9	9	9	9	9	9	9	9	9	9

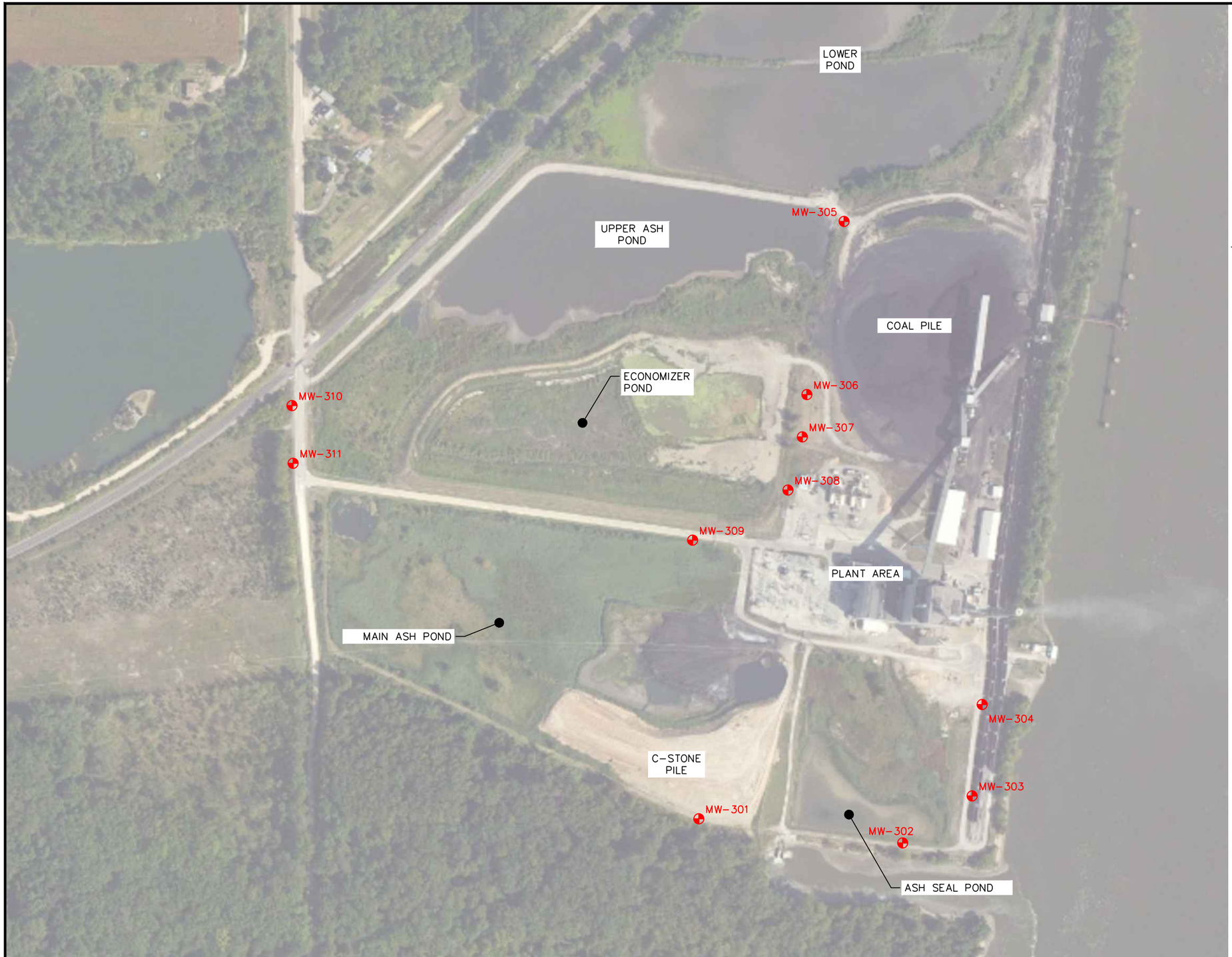
Abbreviations:
B = Background Sample
D = Required by Detection Monitoring Program

Created by: TK Date: 12/29/2017
Last revision by: NDK Date: 1/8/2018
Checked by: JD Date: 1/8/2018

I:\25216066.00\Reports\2017 Annual Report\[GW_Samples_Summary_Table_BGS.xlsx]GW Summary

FIGURE 1

Site Plan and Monitoring Well Locations



LEGEND

CCR MONITORING WELL

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 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.
3. 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.	25216066.17	DRAWN BY:	BJM
DRAWN:	04/01/16	CHECKED BY:	NK
REVISED:	01/18/18	APPROVED BY:	

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\2017 Annual Rpt.dwg, 1/23/2018 3:31:01 PM

APPENDIX A

A1 Round 1 Background Sampling, Analytical Laboratory Report
A2 Round 2 Background Sampling, Analytical Laboratory Report
A3 Round 3 Background Sampling, Analytical Laboratory Report
A4 Round 4 Background Sampling, Analytical Laboratory Report
A5 Round 5 Background Sampling, Analytical Laboratory Report
A6 Round 6 Background Sampling, Analytical Laboratory Report
A7 Round 7 Background Sampling, Analytical Laboratory Report
A8 Round 8 Background Sampling, Analytical Laboratory Report
A9 Fall 2017 Detection Sampling, Analytical Laboratory Report

A1 Round 1 Background Sampling, Analytical Laboratory Report

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

May 03, 2016

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25215173.10
Pace Project No.: 60217668

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on April 23, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers

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CERTIFICATIONS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

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SAMPLE SUMMARY

Project: Burlington/25215173.10
Pace Project No.: 60217668

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60217668001	**MW-301**	Water	04/20/16 14:45	04/23/16 08:25
60217668002	**MW-302**	Water	04/20/16 13:10	04/23/16 08:25
60217668003	**MW-303**	Water	04/20/16 16:00	04/23/16 08:25
60217668004	**MW-304**	Water	04/20/16 16:55	04/23/16 08:25
60217668005	**MW-305**	Water	04/20/16 17:55	04/23/16 08:25
60217668006	**MW-306**	Water	04/21/16 11:30	04/23/16 08:25
60217668007	**MW-307**	Water	04/20/16 18:50	04/23/16 08:25
60217668008	**MW-308**	Water	04/21/16 07:40	04/23/16 08:25
60217668009	**MW-309**	Water	04/21/16 08:25	04/23/16 08:25
60217668010	**MW-310**	Water	04/21/16 09:15	04/23/16 08:25
60217668011	**MW-311**	Water	04/21/16 10:10	04/23/16 08:25
60217668012	**FIELD BLANK**	Water	04/21/16 08:33	04/23/16 08:25

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SAMPLE ANALYTE COUNT

Project: Burlington/25215173.10
Pace Project No.: 60217668

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60217668001	**MW-301**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668002	**MW-302**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668003	**MW-303**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668004	**MW-304**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668005	**MW-305**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668006	**MW-306**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668007	**MW-307**	EPA 6010	TDS	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: Burlington/25215173.10
Pace Project No.: 60217668

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668008	**MW-308**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668009	**MW-309**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668010	**MW-310**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668011	**MW-311**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K
60217668012	**FIELD BLANK**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	AGO	1	PASI-K
		EPA 9040	CRS	1	PASI-K
		EPA 9056	OL	3	PASI-K

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-301 **Lab ID: 60217668001** Collected: 04/20/16 14:45 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**12400**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 11:41	7440-42-8	
Calcium	**156**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 11:41	7440-70-2	
Lithium	**10.3**	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 11:41	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.062J**	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 17:15	7440-36-0	
Arsenic	**39.4**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:15	7440-38-2	
Barium	**381**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 17:15	7440-39-3	M1
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 17:15	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 17:15	7440-43-9	
Chromium	**0.67J**	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 17:15	7440-47-3	
Cobalt	**0.64J**	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:15	7440-48-4	
Lead	**0.31J**	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 17:15	7439-92-1	
Molybdenum	**108**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:15	7439-98-7	
Selenium	**0.34J**	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 17:15	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:15	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:29	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**782**	mg/L	5.0	5.0	1		04/26/16 16:07		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		04/26/16 09:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**23.3**	mg/L	2.0	1.0	2		04/27/16 10:31	16887-00-6	
Fluoride	**0.55**	mg/L	0.20	0.073	1		04/26/16 16:05	16984-48-8	
Sulfate	**193**	mg/L	20.0	5.0	20		04/27/16 10:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-302 **Lab ID: 60217668002** Collected: 04/20/16 13:10 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**8570**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 11:43	7440-42-8	
Calcium	**242**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 11:43	7440-70-2	
Lithium	**60.5**	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 11:43	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.14J**	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 17:28	7440-36-0	
Arsenic	**71.3**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:28	7440-38-2	
Barium	**430**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 17:28	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 17:28	7440-41-7	
Cadmium	**0.043J**	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 17:28	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 17:28	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:28	7440-48-4	
Lead	**0.21J**	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 17:28	7439-92-1	
Molybdenum	**85.8**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:28	7439-98-7	
Selenium	**0.30J**	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 17:28	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:28	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:31	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1040**	mg/L	5.0	5.0	1		04/26/16 16:08		
9040 pH	Analytical Method: EPA 9040								
pH	**7.8**	Std. Units	0.10	0.10	1		04/26/16 09:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**18.3**	mg/L	1.0	0.50	1		04/26/16 16:21	16887-00-6	
Fluoride	**0.11J**	mg/L	0.20	0.073	1		04/26/16 16:21	16984-48-8	
Sulfate	**666**	mg/L	50.0	12.4	50		04/27/16 11:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-303 **Lab ID: 60217668003** Collected: 04/20/16 16:00 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**25800**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 11:45	7440-42-8	
Calcium	**86.3**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 11:45	7440-70-2	
Lithium	**35.8**	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 11:45	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.55J**	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 17:33	7440-36-0	
Arsenic	**38.6**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:33	7440-38-2	
Barium	**361**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 17:33	7440-39-3	
Beryllium	**0.90**	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 17:33	7440-41-7	
Cadmium	**0.58**	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 17:33	7440-43-9	
Chromium	**23.4**	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 17:33	7440-47-3	
Cobalt	**7.8**	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:33	7440-48-4	
Lead	**21.0**	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 17:33	7439-92-1	
Molybdenum	**67.4**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:33	7439-98-7	
Selenium	**2.2**	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 17:33	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:33	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**450**	mg/L	5.0	5.0	1		04/26/16 16:09		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		04/26/16 09:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**17.0**	mg/L	1.0	0.50	1		04/26/16 16:36	16887-00-6	
Fluoride	**0.43**	mg/L	0.20	0.073	1		04/26/16 16:36	16984-48-8	
Sulfate	**34.6**	mg/L	2.0	0.50	2		04/27/16 11:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-304 **Lab ID: 60217668004** Collected: 04/20/16 16:55 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5020**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 11:48	7440-42-8	
Calcium	**142**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 11:48	7440-70-2	
Lithium	**52.4**	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 11:48	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.77J**	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 17:37	7440-36-0	
Arsenic	**60.0**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:37	7440-38-2	
Barium	**112**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 17:37	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 17:37	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 17:37	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 17:37	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:37	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 17:37	7439-92-1	
Molybdenum	**101**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:37	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 17:37	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:37	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:36	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**706**	mg/L	5.0	5.0	1		04/26/16 16:09		
9040 pH	Analytical Method: EPA 9040								
pH	**8.8**	Std. Units	0.10	0.10	1		04/26/16 09:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**34.7**	mg/L	5.0	2.5	5		04/27/16 17:58	16887-00-6	
Fluoride	**0.092J**	mg/L	0.20	0.073	1		04/26/16 16:51	16984-48-8	
Sulfate	**397**	mg/L	50.0	12.4	50		04/27/16 18:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-305 **Lab ID: 60217668005** Collected: 04/20/16 17:55 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**1990**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 11:50	7440-42-8	
Calcium	**116**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 11:50	7440-70-2	M1
Lithium	**24.0**	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 11:50	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.11J**	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 17:41	7440-36-0	
Arsenic	**0.91J**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:41	7440-38-2	
Barium	**231**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 17:41	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 17:41	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 17:41	7440-43-9	
Chromium	**0.43J**	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 17:41	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:41	7440-48-4	
Lead	**0.22J**	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 17:41	7439-92-1	
Molybdenum	**0.60J**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:41	7439-98-7	B
Selenium	ND	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 17:41	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:41	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:38	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**574**	mg/L	5.0	5.0	1		04/26/16 16:10		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		04/26/16 09:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**34.8**	mg/L	5.0	2.5	5		04/27/16 18:28	16887-00-6	
Fluoride	**0.45**	mg/L	0.20	0.073	1		04/26/16 17:37	16984-48-8	
Sulfate	**35.7**	mg/L	5.0	1.2	5		04/27/16 18:28	14808-79-8	

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-306 **Lab ID: 60217668006** Collected: 04/21/16 11:30 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3460**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 12:01	7440-42-8	
Calcium	**37.5**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 12:01	7440-70-2	
Lithium	**33.5**	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 12:01	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.2**	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 17:46	7440-36-0	
Arsenic	**56.6**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:46	7440-38-2	
Barium	**21.2**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 17:46	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 17:46	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 17:46	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 17:46	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:46	7440-48-4	
Lead	**0.28J**	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 17:46	7439-92-1	
Molybdenum	**95.7**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:46	7439-98-7	
Selenium	**0.66J**	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 17:46	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:46	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:40	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**333**	mg/L	5.0	5.0	1		04/26/16 16:12		
9040 pH	Analytical Method: EPA 9040								
pH	**9.9**	Std. Units	0.10	0.10	1		04/26/16 10:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**22.9**	mg/L	2.0	1.0	2		04/27/16 18:44	16887-00-6	
Fluoride	**0.093J**	mg/L	0.20	0.073	1		04/26/16 17:52	16984-48-8	
Sulfate	**152**	mg/L	20.0	5.0	20		04/27/16 18:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-307 **Lab ID: 60217668007** Collected: 04/20/16 18:50 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3720**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 12:03	7440-42-8	
Calcium	**31.9**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 12:03	7440-70-2	
Lithium	**43.1**	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 12:03	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.46J**	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 17:59	7440-36-0	
Arsenic	**53.0**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:59	7440-38-2	
Barium	**38.3**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 17:59	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 17:59	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 17:59	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 17:59	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:59	7440-48-4	
Lead	**0.48J**	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 17:59	7439-92-1	
Molybdenum	**146**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 17:59	7439-98-7	
Selenium	**0.47J**	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 17:59	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 17:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**408**	mg/L	5.0	5.0	1		04/26/16 16:11		
9040 pH	Analytical Method: EPA 9040								
pH	**9.8**	Std. Units	0.10	0.10	1		04/26/16 09:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**23.5**	mg/L	2.0	1.0	2		04/27/16 19:14	16887-00-6	
Fluoride	**0.099J**	mg/L	0.20	0.073	1		04/26/16 18:07	16984-48-8	
Sulfate	**183**	mg/L	20.0	5.0	20		04/27/16 19:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-308 **Lab ID: 60217668008** Collected: 04/21/16 07:40 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4960**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 12:05	7440-42-8	
Calcium	**39.8**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 12:05	7440-70-2	
Lithium	**45.6**	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 12:05	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.29J**	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 18:03	7440-36-0	
Arsenic	**83.8**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:03	7440-38-2	
Barium	**130**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 18:03	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 18:03	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 18:03	7440-43-9	
Chromium	**0.46J**	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 18:03	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:03	7440-48-4	
Lead	**0.33J**	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 18:03	7439-92-1	
Molybdenum	**153**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:03	7439-98-7	
Selenium	**0.69J**	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 18:03	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:45	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**577**	mg/L	5.0	5.0	1		04/26/16 16:13		
9040 pH	Analytical Method: EPA 9040								
pH	**9.4**	Std. Units	0.10	0.10	1		04/26/16 09:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**72.3**	mg/L	20.0	10.0	20		04/27/16 20:00	16887-00-6	
Fluoride	**0.16J**	mg/L	0.20	0.073	1		04/26/16 18:22	16984-48-8	
Sulfate	**222**	mg/L	20.0	5.0	20		04/27/16 20:00	14808-79-8	

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-309 **Lab ID: 60217668009** Collected: 04/21/16 08:25 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5270**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 12:08	7440-42-8	
Calcium	**118**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 12:08	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 12:08	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.087J**	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 18:07	7440-36-0	
Arsenic	**31.5**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:07	7440-38-2	
Barium	**384**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 18:07	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 18:07	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 18:07	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 18:07	7440-47-3	
Cobalt	**2.1**	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:07	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 18:07	7439-92-1	
Molybdenum	**30.7**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:07	7439-98-7	
Selenium	**0.39J**	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 18:07	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:07	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**768**	mg/L	5.0	5.0	1		04/26/16 16:13		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		04/26/16 09:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**145**	mg/L	20.0	10.0	20		04/27/16 21:00	16887-00-6	
Fluoride	**0.57**	mg/L	0.20	0.073	1		04/26/16 18:37	16984-48-8	
Sulfate	**49.0**	mg/L	5.0	1.2	5		04/27/16 20:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-310 **Lab ID: 60217668010** Collected: 04/21/16 09:15 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**437**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 12:10	7440-42-8	
Calcium	**166**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 12:10	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 12:10	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 18:12	7440-36-0	
Arsenic	**60.6**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:12	7440-38-2	
Barium	**813**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 18:12	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 18:12	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 18:12	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 18:12	7440-47-3	
Cobalt	**2.6**	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:12	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 18:12	7439-92-1	
Molybdenum	**5.1**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:12	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 18:12	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**879**	mg/L	5.0	5.0	1		04/26/16 16:14		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		04/26/16 10:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**154**	mg/L	20.0	10.0	20		04/27/16 21:31	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	0.073	1		04/26/16 18:53	16984-48-8	
Sulfate	**53.1**	mg/L	5.0	1.2	5		04/27/16 21:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: MW-311 **Lab ID: 60217668011** Collected: 04/21/16 10:10 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**1810**	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 12:12	7440-42-8	
Calcium	**200**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 12:12	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 12:12	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 18:16	7440-36-0	
Arsenic	**17.7**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:16	7440-38-2	
Barium	**292**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 18:16	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 18:16	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 18:16	7440-43-9	
Chromium	**0.45J**	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 18:16	7440-47-3	
Cobalt	**0.52J**	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:16	7440-48-4	
Lead	**0.20J**	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 18:16	7439-92-1	
Molybdenum	**10.4**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:16	7439-98-7	
Selenium	**0.19J**	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 18:16	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:16	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:56	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1060**	mg/L	5.0	5.0	1		04/26/16 16:14		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		04/26/16 10:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**125**	mg/L	10.0	5.0	10		04/27/16 21:46	16887-00-6	
Fluoride	**0.38**	mg/L	0.20	0.073	1		04/26/16 19:08	16984-48-8	
Sulfate	**283**	mg/L	50.0	12.4	50		04/27/16 22:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60217668

Sample: FIELD BLANK **Lab ID: 60217668012** Collected: 04/21/16 08:33 Received: 04/23/16 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	ND	ug/L	100	50.0	1	04/25/16 15:20	04/26/16 12:14	7440-42-8	
Calcium	**0.017J**	mg/L	0.10	0.0081	1	04/25/16 15:20	04/26/16 12:14	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	04/25/16 15:20	04/26/16 12:14	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	04/25/16 15:20	04/29/16 18:21	7440-36-0	
Arsenic	**0.15J**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:21	7440-38-2	
Barium	**0.53J**	ug/L	1.0	0.14	1	04/25/16 15:20	04/29/16 18:21	7440-39-3	B
Beryllium	ND	ug/L	0.50	0.080	1	04/25/16 15:20	04/29/16 18:21	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	04/25/16 15:20	04/29/16 18:21	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	04/25/16 15:20	04/29/16 18:21	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:21	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	04/25/16 15:20	04/29/16 18:21	7439-92-1	
Molybdenum	**0.19J**	ug/L	1.0	0.10	1	04/25/16 15:20	04/29/16 18:21	7439-98-7	B
Selenium	ND	ug/L	1.0	0.18	1	04/25/16 15:20	04/29/16 18:21	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	04/25/16 15:20	04/29/16 18:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	05/02/16 09:30	05/02/16 15:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**8.0**	mg/L	5.0	5.0	1		04/26/16 16:15		
9040 pH	Analytical Method: EPA 9040								
pH	**6.0**	Std. Units	0.10	0.10	1		04/26/16 09:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	ND	mg/L	1.0	0.50	1		04/26/16 19:23	16887-00-6	
Fluoride	ND	mg/L	0.20	0.073	1		04/26/16 19:23	16984-48-8	
Sulfate	ND	mg/L	1.0	0.25	1		04/26/16 19:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60217668

QC Batch: MERP/10561 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

METHOD BLANK: 1750432 Matrix: Water
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.046	05/02/16 15:13	

LABORATORY CONTROL SAMPLE: 1750433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1750434 1750435

Parameter	Units	60217459003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.5	5.1	110	102	75-125	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60217668

QC Batch: MPRP/35681 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

METHOD BLANK: 1747047 Matrix: Water
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	50.0	04/26/16 11:32	
Calcium	mg/L	ND	0.10	0.0081	04/26/16 11:32	
Lithium	ug/L	ND	10.0	4.9	04/26/16 11:32	

LABORATORY CONTROL SAMPLE: 1747048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	993	99	80-120	
Calcium	mg/L	10	10.1	101	80-120	
Lithium	ug/L	1000	988	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1747049 1747050

Parameter	Units	60217668005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	1990	1000	1000	3040	2990	106	100	75-125	2	20	
Calcium	mg/L	116	10	10	129	126	134	104	75-125	2	20	M1
Lithium	ug/L	24.0	1000	1000	1030	1040	100	101	75-125	1	20	

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60217668

QC Batch: MPRP/35684 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

METHOD BLANK: 1747147 Matrix: Water
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.058	04/29/16 17:07	
Arsenic	ug/L	ND	1.0	0.10	04/29/16 17:07	
Barium	ug/L	0.28J	1.0	0.14	04/29/16 17:07	
Beryllium	ug/L	ND	0.50	0.080	04/29/16 17:07	
Cadmium	ug/L	ND	0.50	0.029	04/29/16 17:07	
Chromium	ug/L	ND	1.0	0.34	04/29/16 17:07	
Cobalt	ug/L	ND	1.0	0.50	04/29/16 17:07	
Lead	ug/L	ND	1.0	0.19	04/29/16 17:07	
Molybdenum	ug/L	0.12J	1.0	0.10	04/29/16 17:07	
Selenium	ug/L	ND	1.0	0.18	04/29/16 17:07	
Thallium	ug/L	ND	1.0	0.50	04/29/16 17:07	

LABORATORY CONTROL SAMPLE: 1747148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.6	104	80-120	
Arsenic	ug/L	40	41.5	104	80-120	
Barium	ug/L	40	41.8	105	80-120	
Beryllium	ug/L	40	39.4	98	80-120	
Cadmium	ug/L	40	41.7	104	80-120	
Chromium	ug/L	40	41.8	105	80-120	
Cobalt	ug/L	40	41.5	104	80-120	
Lead	ug/L	40	41.0	102	80-120	
Molybdenum	ug/L	40	43.0	108	80-120	
Selenium	ug/L	40	40.5	101	80-120	
Thallium	ug/L	40	40.2	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1747149 1747150

Parameter	Units	60217668001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.062J	40	40	39.9	41.2	100	103	75-125	3	20	
Arsenic	ug/L	39.4	40	40	77.8	78.5	96	98	75-125	1	20	
Barium	ug/L	381	40	40	414	411	83	74	75-125	1	20	M1
Beryllium	ug/L	ND	40	40	35.5	37.8	89	94	75-125	6	20	
Cadmium	ug/L	ND	40	40	39.4	40.0	99	100	75-125	1	20	
Chromium	ug/L	0.67J	40	40	40.4	41.2	99	101	75-125	2	20	

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60217668

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1747149 1747150

Parameter	Units	60217668001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	0.64J	40	40	39.5	39.7	97	98	75-125	1	20	
Lead	ug/L	0.31J	40	40	42.6	42.2	106	105	75-125	1	20	
Molybdenum	ug/L	108	40	40	150	149	106	103	75-125	1	20	
Selenium	ug/L	0.34J	40	40	37.7	38.1	93	95	75-125	1	20	
Thallium	ug/L	ND	40	40	42.1	41.4	105	103	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60217668

QC Batch: WET/61448 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

METHOD BLANK: 1747786 Matrix: Water
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	04/26/16 16:06	

LABORATORY CONTROL SAMPLE: 1747787

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1000	100	80-120	

SAMPLE DUPLICATE: 1747788

Parameter	Units	60217668001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	782	789	1	10	

SAMPLE DUPLICATE: 1747789

Parameter	Units	60217709002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	711	731	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60217668

QC Batch: WET/61423 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668007, 60217668008, 60217668009, 60217668012

SAMPLE DUPLICATE: 1747182

Parameter	Units	60217076001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	4.7	4.7	0	10	H6

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60217668

QC Batch: WET/61429 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60217668006, 60217668010, 60217668011

SAMPLE DUPLICATE: 1747306

Parameter	Units	60217668010 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.1	7.1	0	10	H6

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60217668

QC Batch: WETA/39184 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

METHOD BLANK: 1747444 Matrix: Water
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	04/26/16 13:49	
Fluoride	mg/L	ND	0.20	0.073	04/26/16 13:49	
Sulfate	mg/L	ND	1.0	0.25	04/26/16 13:49	

METHOD BLANK: 1748562 Matrix: Water
Associated Lab Samples: 60217668001, 60217668002, 60217668003, 60217668004, 60217668005, 60217668006, 60217668007, 60217668008, 60217668009, 60217668010, 60217668011, 60217668012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	04/27/16 09:00	
Fluoride	mg/L	ND	0.20	0.073	04/27/16 09:00	
Sulfate	mg/L	ND	1.0	0.25	04/27/16 09:00	

LABORATORY CONTROL SAMPLE: 1747445

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	103	80-120	
Fluoride	mg/L	2.5	2.6	106	80-120	
Sulfate	mg/L	5	5.2	103	80-120	

LABORATORY CONTROL SAMPLE: 1748563

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	103	80-120	
Fluoride	mg/L	2.5	2.7	107	80-120	
Sulfate	mg/L	5	5.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1747446 1747447

Parameter	Units	60217492001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	5	5	4.9	4.8	89	87	80-120	2	15	
Fluoride	mg/L	0.29	2.5	2.5	2.5	2.5	88	87	80-120	2	15	
Sulfate	mg/L	ND	5	5	5.5	5.4	102	98	80-120	3	15	

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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(913)599-5665

QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60217668

SAMPLE DUPLICATE: 1747448

Parameter	Units	60217492004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	ND	0.66J		15	
Fluoride	mg/L	0.28	0.28	1	15	
Sulfate	mg/L	1.4	1.5	10	15	

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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(913)599-5665

QUALIFIERS

Project: Burlington/25215173.10
Pace Project No.: 60217668

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.

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.

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

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25215173.10
Pace Project No.: 60217668

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60217668001	**MW-301**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668002	**MW-302**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668003	**MW-303**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668004	**MW-304**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668005	**MW-305**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668006	**MW-306**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668007	**MW-307**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668008	**MW-308**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668009	**MW-309**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668010	**MW-310**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668011	**MW-311**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668012	**FIELD BLANK**	EPA 3010	MPRP/35681	EPA 6010	ICP/26084
60217668001	**MW-301**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668002	**MW-302**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668003	**MW-303**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668004	**MW-304**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668005	**MW-305**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668006	**MW-306**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668007	**MW-307**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668008	**MW-308**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668009	**MW-309**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668010	**MW-310**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668011	**MW-311**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668012	**FIELD BLANK**	EPA 3010	MPRP/35684	EPA 6020	ICPM/4220
60217668001	**MW-301**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668002	**MW-302**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668003	**MW-303**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668004	**MW-304**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668005	**MW-305**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668006	**MW-306**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668007	**MW-307**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668008	**MW-308**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668009	**MW-309**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668010	**MW-310**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668011	**MW-311**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668012	**FIELD BLANK**	EPA 7470	MERP/10561	EPA 7470	MERC/10509
60217668001	**MW-301**	SM 2540C	WET/61448		
60217668002	**MW-302**	SM 2540C	WET/61448		
60217668003	**MW-303**	SM 2540C	WET/61448		
60217668004	**MW-304**	SM 2540C	WET/61448		
60217668005	**MW-305**	SM 2540C	WET/61448		
60217668006	**MW-306**	SM 2540C	WET/61448		
60217668007	**MW-307**	SM 2540C	WET/61448		
60217668008	**MW-308**	SM 2540C	WET/61448		
60217668009	**MW-309**	SM 2540C	WET/61448		
60217668010	**MW-310**	SM 2540C	WET/61448		
60217668011	**MW-311**	SM 2540C	WET/61448		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25215173.10
Pace Project No.: 60217668

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60217668012	**FIELD BLANK**	SM 2540C	WET/61448		
60217668001	**MW-301**	EPA 9040	WET/61423		
60217668002	**MW-302**	EPA 9040	WET/61423		
60217668003	**MW-303**	EPA 9040	WET/61423		
60217668004	**MW-304**	EPA 9040	WET/61423		
60217668005	**MW-305**	EPA 9040	WET/61423		
60217668006	**MW-306**	EPA 9040	WET/61429		
60217668007	**MW-307**	EPA 9040	WET/61423		
60217668008	**MW-308**	EPA 9040	WET/61423		
60217668009	**MW-309**	EPA 9040	WET/61423		
60217668010	**MW-310**	EPA 9040	WET/61429		
60217668011	**MW-311**	EPA 9040	WET/61429		
60217668012	**FIELD BLANK**	EPA 9040	WET/61423		
60217668001	**MW-301**	EPA 9056	WETA/39184		
60217668002	**MW-302**	EPA 9056	WETA/39184		
60217668003	**MW-303**	EPA 9056	WETA/39184		
60217668004	**MW-304**	EPA 9056	WETA/39184		
60217668005	**MW-305**	EPA 9056	WETA/39184		
60217668006	**MW-306**	EPA 9056	WETA/39184		
60217668007	**MW-307**	EPA 9056	WETA/39184		
60217668008	**MW-308**	EPA 9056	WETA/39184		
60217668009	**MW-309**	EPA 9056	WETA/39184		
60217668010	**MW-310**	EPA 9056	WETA/39184		
60217668011	**MW-311**	EPA 9056	WETA/39184		
60217668012	**FIELD BLANK**	EPA 9056	WETA/39184		

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Sample Condition Upon Receipt

WO#: 60217668

60217668

Client Name: SCS Engineers

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 7828 9738 1510 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: CF +1.0 T-239 / CF 0.0 T-262 (CF 0.0 T-262 circled) **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 0.9 1.8

Date and initials of person examining contents: JB 4/23

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☐Yes ☒No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☒N/A	
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes ☐No ☒N/A	18.

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AJL Date: 4.25.16

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

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:	25215173.10_

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): N N N

Pace Project No./Lab I.D.: 60217668

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	6010 Total Metals: B-Ca-Li	6020 Total Metals *	7470 Total Hg	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	Residual Chlorine (Y/N)	Pace Project No./Lab I.D.
1	MW-301	WT	G	xxx	xxx	4/20	1445		2	1		1							X	X	X	X	X	X		BP2U BP2N 001
2	MW-302	WT	G	xxx	xxx	4/20	1310		2	1		1							X	X	X	X	X	X		002
3	MW-303	WT	G	xxx	xxx	4-20	11000		2	1		1							X	X	X	X	X	X		003
4	MW-304	WT	G	xxx	xxx	4/20	1655		2	1		1							X	X	X	X	X	X		004
5	MW-305	WT	G	xxx	xxx	4/20	1755		2	1		1							X	X	X	X	X	X		005
6	MW-306	WT	G	xxx	xxx	4/21	1130		2	1		1							X	X	X	X	X	X		006
7	MW-307	WT	G	xxx	xxx	4/20	1850		2	1		1							X	X	X	X	X	X		007
8	MW-308	WT	G	xxx	xxx	4/21	740		2	1		1							X	X	X	X	X	X		008
9	MW-309	WT	G	xxx	xxx	4/21	8:25		2	1		1							X	X	X	X	X	X		009
10	MW-310	WT	G	xxx	xxx	4/21	9:15		2	1		1							X	X	X	X	X	X		010
11	MW-311	WT	G	xxx	xxx	4/21	1010		2	1		1							X	X	X	X	X	X		011
12	FIELD BLANK	WT	G	xxx	xxx	4/21	8:33		2	1		1							X	X	X	X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	[signature]	4/22	10:00	[signature] Pace	4/23	1825	0.4	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl							1.8	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn DeBruyne

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 04/22/2016

*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

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

May 17, 2016

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25215173.10
Pace Project No.: 60217677

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on April 23, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Burlington/25215173.10
Pace Project No.: 60217677

Pennsylvania Certification IDs
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, Inc.
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(913)599-5665

SAMPLE SUMMARY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60217677001	**MW-301**	Water	04/20/16 14:45	04/23/16 08:25
60217677002	**MW-302**	Water	04/20/16 13:10	04/23/16 08:25
60217677003	**MW-303**	Water	04/20/16 16:00	04/23/16 08:25
60217677004	**MW-304**	Water	04/20/16 16:55	04/23/16 08:25
60217677005	**MW-305**	Water	04/20/16 17:55	04/23/16 08:25
60217677006	**MW-306**	Water	04/21/16 11:30	04/23/16 08:25
60217677007	**MW-307**	Water	04/20/16 18:50	04/23/16 08:25
60217677008	**MW-308**	Water	04/21/16 07:40	04/23/16 08:25
60217677009	**MW-309**	Water	04/21/16 08:25	04/23/16 08:25
60217677010	**MW-310**	Water	04/21/16 09:15	04/23/16 08:25
60217677011	**MW-311**	Water	04/21/16 10:10	04/23/16 08:25
60217677012	**FIELD BLANK**	Water	04/21/16 08:33	04/23/16 08:25

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SAMPLE ANALYTE COUNT

Project: Burlington/25215173.10
Pace Project No.: 60217677

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60217677001	MW-301	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677002	MW-302	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677003	MW-303	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677004	MW-304	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677005	MW-305	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677006	MW-306	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677007	MW-307	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677008	MW-308	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677009	MW-309	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677010	MW-310	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677011	MW-311	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60217677012	FIELD BLANK	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-301 **Lab ID: 60217677001** Collected: 04/20/16 14:45 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.600 ± 0.511 (0.718) C:NA T:88%**	pCi/L	05/16/16 20:39	13982-63-3	
Radium-228	EPA 904.0	**0.729 ± 0.360 (0.625) C:89% T:86%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**1.33 ± 0.871 (1.34)**	pCi/L	05/17/16 13:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-302 **Lab ID: 60217677002** Collected: 04/20/16 13:10 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.323 (0.658) C:NA T:85%**	pCi/L	05/16/16 20:40	13982-63-3	
Radium-228	EPA 904.0	**1.82 ± 0.548 (0.677) C:91% T:85%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**1.82 ± 0.871 (1.34)**	pCi/L	05/17/16 13:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-303 **Lab ID: 60217677003** Collected: 04/20/16 16:00 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.866 ± 0.481 (0.180) C:NA T:89%**	pCi/L	05/16/16 20:40	13982-63-3	
Radium-228	EPA 904.0	**1.31 ± 0.440 (0.619) C:89% T:91%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**2.18 ± 0.921 (0.799)**	pCi/L	05/17/16 13:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-304 **Lab ID: 60217677004** Collected: 04/20/16 16:55 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.320 (0.651) C:NA T:83%**	pCi/L	05/16/16 20:53	13982-63-3	
Radium-228	EPA 904.0	**1.26 ± 0.446 (0.649) C:88% T:92%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**1.26 ± 0.766 (1.30)**	pCi/L	05/17/16 13:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-305 **Lab ID: 60217677005** Collected: 04/20/16 17:55 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.125 ± 0.286 (0.170) C:NA T:92%**	pCi/L	05/16/16 20:51	13982-63-3	
Radium-228	EPA 904.0	**1.60 ± 0.504 (0.658) C:89% T:83%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**1.73 ± 0.790 (0.828)**	pCi/L	05/17/16 13:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-306 **Lab ID: 60217677006** Collected: 04/21/16 11:30 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.438 ± 0.455 (0.678) C:NA T:85%**	pCi/L	05/16/16 20:51	13982-63-3	
Radium-228	EPA 904.0	**0.841 ± 0.396 (0.677) C:88% T:83%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**1.28 ± 0.851 (1.36)**	pCi/L	05/17/16 13:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-307 **Lab ID: 60217677007** Collected: 04/20/16 18:50 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.153 ± 0.350 (0.208) C:NA T:79%**	pCi/L	05/16/16 20:52	13982-63-3	
Radium-228	EPA 904.0	**1.45 ± 0.463 (0.608) C:91% T:85%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**1.60 ± 0.813 (0.816)**	pCi/L	05/17/16 13:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-308 **Lab ID: 60217677008** Collected: 04/21/16 07:40 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0744 ± 0.484 (0.976) C:NA T:88%**	pCi/L	05/16/16 21:27	13982-63-3	
Radium-228	EPA 904.0	**0.638 ± 0.292 (0.486) C:103% T:91%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**0.712 ± 0.776 (1.46)**	pCi/L	05/17/16 13:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-309 **Lab ID: 60217677009** Collected: 04/21/16 08:25 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.991 ± 0.657 (0.866) C:NA T:91%**	pCi/L	05/16/16 21:39	13982-63-3	
Radium-228	EPA 904.0	**1.56 ± 0.474 (0.590) C:91% T:87%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**2.55 ± 1.13 (1.46)**	pCi/L	05/17/16 13:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-310 **Lab ID: 60217677010** Collected: 04/21/16 09:15 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.951 ± 0.575 (0.631) C:NA T:93%**	pCi/L	05/16/16 21:14	13982-63-3	
Radium-228	EPA 904.0	**1.46 ± 0.470 (0.625) C:87% T:88%**	pCi/L	05/12/16 23:18	15262-20-1	
Total Radium	Total Radium Calculation	**2.41 ± 1.05 (1.26)**	pCi/L	05/17/16 13:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: MW-311 **Lab ID: 60217677011** Collected: 04/21/16 10:10 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.207 ± 0.450 (0.830) C:NA T:88%**	pCi/L	05/16/16 21:12	13982-63-3	
Radium-228	EPA 904.0	**0.624 ± 0.320 (0.563) C:90% T:92%**	pCi/L	05/12/16 23:19	15262-20-1	
Total Radium	Total Radium Calculation	**0.831 ± 0.770 (1.39)**	pCi/L	05/17/16 13:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

Sample: FIELD BLANK **Lab ID: 60217677012** Collected: 04/21/16 08:33 Received: 04/23/16 08:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.377 (0.797) C:NA T:94%**	pCi/L	05/16/16 21:26	13982-63-3	
Radium-228	EPA 904.0	**0.647 ± 0.317 (0.548) C:90% T:95%**	pCi/L	05/12/16 23:19	15262-20-1	
Total Radium	Total Radium Calculation	**0.647 ± 0.694 (1.35)**	pCi/L	05/17/16 13:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

QC Batch: RADC/29275 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60217677001, 60217677002, 60217677003, 60217677004, 60217677005, 60217677006, 60217677007, 60217677008, 60217677009, 60217677010, 60217677011, 60217677012

METHOD BLANK: 1070001 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.285 (0.170) C:NA T:99%	pCi/L	05/16/16 20:38	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60217677

QC Batch: RADC/29289 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60217677001, 60217677002, 60217677003, 60217677004, 60217677005, 60217677006, 60217677007, 60217677008, 60217677009, 60217677010, 60217677011, 60217677012

METHOD BLANK: 1070022 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.629 ± 0.318 (0.555) C:89% T:92%	pCi/L	05/12/16 23:17	

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/25215173.10
Pace Project No.: 60217677

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.

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.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25215173.10
Pace Project No.: 60217677

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60217677001	**MW-301**	EPA 903.1	RADC/29275		
60217677002	**MW-302**	EPA 903.1	RADC/29275		
60217677003	**MW-303**	EPA 903.1	RADC/29275		
60217677004	**MW-304**	EPA 903.1	RADC/29275		
60217677005	**MW-305**	EPA 903.1	RADC/29275		
60217677006	**MW-306**	EPA 903.1	RADC/29275		
60217677007	**MW-307**	EPA 903.1	RADC/29275		
60217677008	**MW-308**	EPA 903.1	RADC/29275		
60217677009	**MW-309**	EPA 903.1	RADC/29275		
60217677010	**MW-310**	EPA 903.1	RADC/29275		
60217677011	**MW-311**	EPA 903.1	RADC/29275		
60217677012	**FIELD BLANK**	EPA 903.1	RADC/29275		
60217677001	**MW-301**	EPA 904.0	RADC/29289		
60217677002	**MW-302**	EPA 904.0	RADC/29289		
60217677003	**MW-303**	EPA 904.0	RADC/29289		
60217677004	**MW-304**	EPA 904.0	RADC/29289		
60217677005	**MW-305**	EPA 904.0	RADC/29289		
60217677006	**MW-306**	EPA 904.0	RADC/29289		
60217677007	**MW-307**	EPA 904.0	RADC/29289		
60217677008	**MW-308**	EPA 904.0	RADC/29289		
60217677009	**MW-309**	EPA 904.0	RADC/29289		
60217677010	**MW-310**	EPA 904.0	RADC/29289		
60217677011	**MW-311**	EPA 904.0	RADC/29289		
60217677012	**FIELD BLANK**	EPA 904.0	RADC/29289		
60217677001	**MW-301**	Total Radium Calculation	RADC/29457		
60217677002	**MW-302**	Total Radium Calculation	RADC/29457		
60217677003	**MW-303**	Total Radium Calculation	RADC/29457		
60217677004	**MW-304**	Total Radium Calculation	RADC/29457		
60217677005	**MW-305**	Total Radium Calculation	RADC/29457		
60217677006	**MW-306**	Total Radium Calculation	RADC/29457		
60217677007	**MW-307**	Total Radium Calculation	RADC/29457		
60217677008	**MW-308**	Total Radium Calculation	RADC/29457		
60217677009	**MW-309**	Total Radium Calculation	RADC/29457		
60217677010	**MW-310**	Total Radium Calculation	RADC/29457		
60217677011	**MW-311**	Total Radium Calculation	RADC/29457		
60217677012	**FIELD BLANK**	Total Radium Calculation	RADC/29457		

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Sample Condition Upon Receipt

WO# : 60217677

60217677

Client Name: SCS Engineers

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 7828 9738 1510 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: CF +1.0 T-239 / CF 0.0 T-262

Type of Ice: Wet Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 1.2 2.8 1.7

Date and initials of person examining contents: JB 4/27

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☒N/A	
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes ☐No ☒N/A	18.

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 4.25.16

Pace Analytical™ www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	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:	25215173.10_

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)

Pace Project No./ Lab I.D.: 60217677

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	903.1 Radium-226	904.0 Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-301	WT	G	xxx	xxx	4/20	1445		2			2						X	X	X		(2) BPIN 01
2	MW-302	WT	G	xxx	xxx	4/20	1310		2			2						X	X	X		02
3	MW-303	WT	G	xxx	xxx	4-20	1100		2			2						X	X	X		03
4	MW-304	WT	G	xxx	xxx	4/20	1055		2			2						X	X	X		04
5	MW-305	WT	G	xxx	xxx	4/20	1755		2			2						X	X	X		05
6	MW-306	WT	G	xxx	xxx	4/21	1130		2			2						X	X	X		06
7	MW-307	WT	G	xxx	xxx	4/20	1850		2			2						X	X	X		07
8	MW-308	WT	G	xxx	xxx	4/21	740		2			2						X	X	X		08
9	MW-309	WT	G	xxx	xxx	4/21	8:25		2			2						X	X	X		09
10	MW-310	WT	G	xxx	xxx	4/21	9:15		2			2						X	X	X		010
11	MW-311	WT	G	xxx	xxx	4/21	1010		2			2						X	X	X		011
12	FIELD BLANK	WT	G	xxx	xxx	4/21	8:33		2			2						X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	[signature]	4/22	10:00	[signature]	4/23	0825	1.2	Y	Y	Y
							2.8	Y	Y	Y
							1.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jaclyn DeBruyne

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 04/22/2016

*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

Chain of Custody

WO#:30181148

Pace Analytical
www.pacelabs.com

Workorder: 60217677 **Workorder Name:** Burlington/25215173.10 **Owner Received Date:** 4/23/2016 **Results Requested By:** 5/17/2016

Report To	Subcontract To
Trudy Gipson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: 903.1 Radium-226	904.0 Radium-228	Total Radoim										LAB USE ONLY
1	MW-301	PS	4/20/2016 14:45	60217677001	Water	2						X	X	X										001
2	MW-302	PS	4/20/2016 13:10	60217677002	Water	2						X	X	X										002
3	MW-303	PS	4/20/2016 16:00	60217677003	Water	2						X	X	X										003
4	MW-304	PS	4/20/2016 16:55	60217677004	Water	2						X	X	X										004
5	MW-305	PS	4/20/2016 17:55	60217677005	Water	2						X	X	X										005
6	MW-306	PS	4/21/2016 11:30	60217677006	Water	2						X	X	X										006
7	MW-307	PS	4/20/2016 18:50	60217677007	Water	2						X	X	X										007
8	MW-308	PS	4/21/2016 07:40	60217677008	Water	2						X	X	X										008
9	MW-309	PS	4/21/2016 08:25	60217677009	Water	2						X	X	X										009
10	MW-310	PS	4/21/2016 09:15	60217677010	Water	2						X	X	X										010
11	MW-311	PS	4/21/2016 10:10	60217677011	Water	2						X	X	X										011
12	FIELD BLANK	PS	4/21/2016 08:33	60217677012	Water	2						X	X	X										012

Transfers	Released By	Date/Time	Received	Date/Time
1	[signature] Pace	4/25/16 1700	[signature] Pace	4/26/16
2				
3				

Comments: 0930

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

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

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace KS Project # 30181148

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

Tracking #: 6703 1641 9694

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

Thermometer Used N/A **Type of Ice:** Wet Blue (None)

Cooler Temperature **Observed Temp** N/A °C Correction Factor: N/A °C Final Temp: N/A °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: RTB 4/26/16

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC:	X			5.
-Includes date/time/ID/Analysis Matrix: WT				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Filtered volume received for Dissolved tests			X	12.
All containers needing preservation have been checked.	X			13. pH <2
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed 4/26/16 RTB; Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	14.
Trip Blank Present: RTB 4/26/16	~~X~~		X	15.
Trip Blank Custody Seals Present			X	

Client Notification/ Resolution:

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

Comments/ Resolution: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

A2 Round 2 Background Sampling, Analytical Laboratory Report

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 21, 2016

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25215173.10
Pace Project No.: 60220969

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: Burlington/25215173.10
Pace Project No.: 60220969

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60220969001	**MW-301**	Water	06/06/16 17:45	06/09/16 08:40
60220969002	**MW-302**	Water	06/06/16 17:00	06/09/16 08:40
60220969003	**MW-303**	Water	06/06/16 16:15	06/09/16 08:40
60220969004	**MW-304**	Water	06/06/16 15:25	06/09/16 08:40
60220969005	**MW-305**	Water	06/06/16 20:55	06/09/16 08:40
60220969006	**MW-306**	Water	06/06/16 19:25	06/09/16 08:40
60220969007	**MW-307**	Water	06/06/16 20:20	06/09/16 08:40
60220969008	**MW-308**	Water	06/06/16 18:45	06/09/16 08:40
60220969009	**MW-309**	Water	06/07/16 10:00	06/09/16 08:40
60220969010	**MW-310**	Water	06/07/16 08:30	06/09/16 08:40
60220969011	**MW-311**	Water	06/07/16 09:10	06/09/16 08:40
60220969012	**FIELD BLANK**	Water	06/06/16 19:45	06/09/16 08:40

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: Burlington/25215173.10
Pace Project No.: 60220969

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60220969001	**MW-301**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60220969002	**MW-302**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969003	**MW-303**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969004	**MW-304**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969005	**MW-305**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969006	**MW-306**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969007	**MW-307**	EPA 6010	JGP	3	PASI-K

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: Burlington/25215173.10
Pace Project No.: 60220969

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969008	**MW-308**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969009	**MW-309**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969010	**MW-310**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969011	**MW-311**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60220969012	**FIELD BLANK**	EPA 6010	JGP	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	HAC	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	JMC1	3	PASI-K

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-301 **Lab ID: 60220969001** Collected: 06/06/16 17:45 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/06/16 17:45		
Field pH	**7.65**	Std. Units	0.10	0.050	1		06/06/16 17:45		
Field Temperature	**13.2**	deg C	0.50	0.25	1		06/06/16 17:45		
Field Specific Conductance	**1,702**	umhos/cm	1.0	1.0	1		06/06/16 17:45		
Field Oxidation Potential	**-110.7**	mV			1		06/06/16 17:45		
Oxygen, Dissolved	**1.12**	mg/L			1		06/06/16 17:45	7782-44-7	
Turbidity	**1.00**	NTU	1.0	1.0	1		06/06/16 17:45		
Groundwater Elevation	**521.07**	feet			1		06/06/16 17:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**10600**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 18:34	7440-42-8	
Calcium	**100**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 18:34	7440-70-2	
Lithium	**11.7**	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 18:34	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.12J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 12:13	7440-36-0	B
Arsenic	**35.0**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:13	7440-38-2	
Barium	**239**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 12:13	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 12:13	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 12:13	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 12:13	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:13	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 12:13	7439-92-1	
Molybdenum	**116**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:13	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 12:13	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/17/16 16:21	7439-97-6	M1
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**630**	mg/L	5.0	5.0	1		06/10/16 09:52		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**22.4**	mg/L	2.0	1.0	2		06/19/16 10:47	16887-00-6	
Fluoride	**0.29**	mg/L	0.20	0.073	1		06/18/16 17:26	16984-48-8	
Sulfate	**170**	mg/L	20.0	5.0	20		06/19/16 11:32	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-302 **Lab ID: 60220969002** Collected: 06/06/16 17:00 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/06/16 17:00		
Field pH	**8.06**	Std. Units	0.10	0.050	1		06/06/16 17:00		
Field Temperature	**12.7**	deg C	0.50	0.25	1		06/06/16 17:00		
Field Specific Conductance	**2,053**	umhos/cm	1.0	1.0	1		06/06/16 17:00		
Field Oxidation Potential	**-147**	mV			1		06/06/16 17:00		
Oxygen, Dissolved	**0.8**	mg/L			1		06/06/16 17:00	7782-44-7	
Turbidity	**2.56**	NTU	1.0	1.0	1		06/06/16 17:00		
Groundwater Elevation	**521.21**	feet			1		06/06/16 17:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**8400**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 18:45	7440-42-8	
Calcium	**243**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 18:45	7440-70-2	
Lithium	**69.6**	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 18:45	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.15J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 12:26	7440-36-0	B
Arsenic	**68.4**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:26	7440-38-2	
Barium	**476**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 12:26	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 12:26	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 12:26	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 12:26	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:26	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 12:26	7439-92-1	
Molybdenum	**84.4**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:26	7439-98-7	
Selenium	**0.22J**	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 12:26	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/17/16 16:28	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1140**	mg/L	5.0	5.0	1		06/10/16 09:53		
9040 pH	Analytical Method: EPA 9040								
pH	**7.8**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.2**	mg/L	1.0	0.50	1		06/15/16 19:06	16887-00-6	
Fluoride	ND	mg/L	0.20	0.073	1		06/15/16 19:06	16984-48-8	
Sulfate	**525**	mg/L	50.0	12.4	50		06/15/16 19:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-303 **Lab ID: 60220969003** Collected: 06/06/16 16:15 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/06/16 16:15		
Field pH	**7.48**	Std. Units	0.10	0.050	1		06/06/16 16:15		
Field Temperature	**13.9**	deg C	0.50	0.25	1		06/06/16 16:15		
Field Specific Conductance	**1,009**	umhos/cm	1.0	1.0	1		06/06/16 16:15		
Field Oxidation Potential	**-113**	mV			1		06/06/16 16:15		
Oxygen, Dissolved	**1.02**	mg/L			1		06/06/16 16:15	7782-44-7	
Turbidity	**2.45**	NTU	1.0	1.0	1		06/06/16 16:15		
Groundwater Elevation	**521.26**	feet			1		06/06/16 16:15		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**27500**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 18:48	7440-42-8	
Calcium	**79.9**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 18:48	7440-70-2	
Lithium	**34.6**	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 18:48	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.12J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 12:31	7440-36-0	B
Arsenic	**26.5**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:31	7440-38-2	
Barium	**250**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 12:31	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 12:31	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 12:31	7440-43-9	
Chromium	**0.48J**	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 12:31	7440-47-3	
Cobalt	**0.56J**	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:31	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 12:31	7439-92-1	
Molybdenum	**55.4**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:31	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 12:31	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 09:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**441**	mg/L	5.0	5.0	1		06/10/16 09:53		
9040 pH	Analytical Method: EPA 9040								
pH	**7.4**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**16.0**	mg/L	1.0	0.50	1		06/15/16 20:21	16887-00-6	
Fluoride	**0.16J**	mg/L	0.20	0.073	1		06/15/16 20:21	16984-48-8	
Sulfate	**23.3**	mg/L	4.0	0.99	4		06/15/16 20:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-304 **Lab ID: 60220969004** Collected: 06/06/16 15:25 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/06/16 15:25		
Field pH	**8.65**	Std. Units	0.10	0.050	1		06/06/16 15:25		
Field Temperature	**14**	deg C	0.50	0.25	1		06/06/16 15:25		
Field Specific Conductance	**1,455**	umhos/cm	1.0	1.0	1		06/06/16 15:25		
Field Oxidation Potential	**-153**	mV			1		06/06/16 15:25		
Oxygen, Dissolved	**1.55**	mg/L			1		06/06/16 15:25	7782-44-7	
Turbidity	**1.26**	NTU	1.0	1.0	1		06/06/16 15:25		
Groundwater Elevation	**521.28**	feet			1		06/06/16 15:25		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5050**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 18:52	7440-42-8	
Calcium	**137**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 18:52	7440-70-2	
Lithium	**57.8**	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 18:52	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.77J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 12:35	7440-36-0	B
Arsenic	**59.4**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:35	7440-38-2	
Barium	**127**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 12:35	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 12:35	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 12:35	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 12:35	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:35	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 12:35	7439-92-1	
Molybdenum	**105**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:35	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 12:35	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:35	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 10:01	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**678**	mg/L	5.0	5.0	1		06/10/16 09:54		
9040 pH	Analytical Method: EPA 9040								
pH	**8.9**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**30.0**	mg/L	2.0	1.0	2		06/16/16 18:27	16887-00-6	
Fluoride	ND	mg/L	0.20	0.073	1		06/15/16 21:05	16984-48-8	
Sulfate	**324**	mg/L	20.0	5.0	20		06/15/16 20:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-305 **Lab ID: 60220969005** Collected: 06/06/16 20:55 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/06/16 20:55		
Field pH	**7.75**	Std. Units	0.10	0.050	1		06/06/16 20:55		
Field Temperature	**14.9**	deg C	0.50	0.25	1		06/06/16 20:55		
Field Specific Conductance	**1,919**	umhos/cm	1.0	1.0	1		06/06/16 20:55		
Field Oxidation Potential	**-120**	mV			1		06/06/16 20:55		
Oxygen, Dissolved	**1.18**	mg/L			1		06/06/16 20:55	7782-44-7	
Turbidity	**1.79**	NTU	1.0	1.0	1		06/06/16 20:55		
Groundwater Elevation	**521.48**	feet			1		06/06/16 20:55		
6010 MET ICP	Analytical Method: EPA 6010		Preparation Method: EPA 3010						
Boron	**2040**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 19:03	7440-42-8	
Calcium	**119**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 19:03	7440-70-2	
Lithium	**29.8**	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 19:03	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020		Preparation Method: EPA 3010						
Antimony	**0.11J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 12:39	7440-36-0	B
Arsenic	**0.40J**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:39	7440-38-2	
Barium	**242**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 12:39	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 12:39	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 12:39	7440-43-9	
Chromium	**0.36J**	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 12:39	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:39	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 12:39	7439-92-1	
Molybdenum	**0.79J**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:39	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 12:39	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:39	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470		Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 10:03	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**590**	mg/L	5.0	5.0	1		06/10/16 09:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**32.9**	mg/L	5.0	2.5	5		06/15/16 22:05	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	0.073	1		06/15/16 21:50	16984-48-8	
Sulfate	**68.0**	mg/L	5.0	1.2	5		06/15/16 22:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-306 **Lab ID: 60220969006** Collected: 06/06/16 19:25 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/06/16 19:25		
Field pH	**10.36**	Std. Units	0.10	0.050	1		06/06/16 19:25		
Field Temperature	**14.4**	deg C	0.50	0.25	1		06/06/16 19:25		
Field Specific Conductance	**977**	umhos/cm	1.0	1.0	1		06/06/16 19:25		
Field Oxidation Potential	**-181**	mV			1		06/06/16 19:25		
Oxygen, Dissolved	**0.57**	mg/L			1		06/06/16 19:25	7782-44-7	
Turbidity	**0.1**	NTU	1.0	1.0	1		06/06/16 19:25		
Groundwater Elevation	**521.43**	feet			1		06/06/16 19:25		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3340**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 19:07	7440-42-8	
Calcium	**38.1**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 19:07	7440-70-2	
Lithium	**37.9**	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 19:07	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.2**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 12:44	7440-36-0	
Arsenic	**47.4**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:44	7440-38-2	
Barium	**18.2**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 12:44	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 12:44	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 12:44	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 12:44	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:44	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 12:44	7439-92-1	
Molybdenum	**84.1**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:44	7439-98-7	
Selenium	**0.54J**	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 12:44	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:44	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 10:06	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**321**	mg/L	5.0	5.0	1		06/10/16 09:54		
9040 pH	Analytical Method: EPA 9040								
pH	**10.2**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**22.6**	mg/L	2.0	1.0	2		06/16/16 18:41	16887-00-6	
Fluoride	ND	mg/L	0.20	0.073	1		06/15/16 23:05	16984-48-8	
Sulfate	**132**	mg/L	20.0	5.0	20		06/15/16 23:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-307 **Lab ID: 60220969007** Collected: 06/06/16 20:20 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/06/16 20:20		
Field pH	**10.19**	Std. Units	0.10	0.050	1		06/06/16 20:20		
Field Temperature	**14.1**	deg C	0.50	0.25	1		06/06/16 20:20		
Field Specific Conductance	**1,142**	umhos/cm	1.0	1.0	1		06/06/16 20:20		
Field Oxidation Potential	**-168**	mV			1		06/06/16 20:20		
Oxygen, Dissolved	**0.6**	mg/L			1		06/06/16 20:20	7782-44-7	
Turbidity	**0.46**	NTU	1.0	1.0	1		06/06/16 20:20		
Groundwater Elevation	**521.75**	feet			1		06/06/16 20:20		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3760**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 19:10	7440-42-8	
Calcium	**30.8**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 19:10	7440-70-2	
Lithium	**45.6**	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 19:10	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.62J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 12:57	7440-36-0	B
Arsenic	**57.4**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:57	7440-38-2	
Barium	**42.2**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 12:57	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 12:57	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 12:57	7440-43-9	
Chromium	**0.84J**	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 12:57	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:57	7440-48-4	
Lead	**1.1**	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 12:57	7439-92-1	
Molybdenum	**155**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 12:57	7439-98-7	
Selenium	**0.45J**	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 12:57	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 12:57	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 10:08	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**385**	mg/L	5.0	5.0	1		06/10/16 09:55		
9040 pH	Analytical Method: EPA 9040								
pH	**10**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**22.6**	mg/L	2.0	1.0	2		06/15/16 23:34	16887-00-6	
Fluoride	ND	mg/L	0.20	0.073	1		06/15/16 23:49	16984-48-8	
Sulfate	**150**	mg/L	20.0	5.0	20		06/16/16 00:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-308 **Lab ID: 60220969008** Collected: 06/06/16 18:45 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/06/16 18:45		
Field pH	**9.76**	Std. Units	0.10	0.050	1		06/06/16 18:45		
Field Temperature	**14.2**	deg C	0.50	0.25	1		06/06/16 18:45		
Field Specific Conductance	**1,678**	umhos/cm	1.0	1.0	1		06/06/16 18:45		
Field Oxidation Potential	**-149**	mV			1		06/06/16 18:45		
Oxygen, Dissolved	**0.81**	mg/L			1		06/06/16 18:45	7782-44-7	
Turbidity	**0.42**	NTU	1.0	1.0	1		06/06/16 18:45		
Groundwater Elevation	**521.43**	feet			1		06/06/16 18:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4980**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 19:14	7440-42-8	
Calcium	**36.8**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 19:14	7440-70-2	
Lithium	**45.8**	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 19:14	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.34J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 13:01	7440-36-0	B
Arsenic	**80.5**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:01	7440-38-2	
Barium	**110**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 13:01	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 13:01	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 13:01	7440-43-9	
Chromium	**0.41J**	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 13:01	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:01	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 13:01	7439-92-1	
Molybdenum	**139**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:01	7439-98-7	
Selenium	**0.47J**	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 13:01	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:01	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 10:10	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**548**	mg/L	5.0	5.0	1		06/10/16 09:55		
9040 pH	Analytical Method: EPA 9040								
pH	**9.6**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**65.7**	mg/L	5.0	2.5	5		06/16/16 00:19	16887-00-6	
Fluoride	**0.095J**	mg/L	0.20	0.073	1		06/16/16 00:34	16984-48-8	
Sulfate	**187**	mg/L	20.0	5.0	20		06/16/16 00:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-309 **Lab ID: 60220969009** Collected: 06/07/16 10:00 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/07/16 10:00		
Field pH	**7.43**	Std. Units	0.10	0.050	1		06/07/16 10:00		
Field Temperature	**13.4**	deg C	0.50	0.25	1		06/07/16 10:00		
Field Specific Conductance	**2,369**	umhos/cm	1.0	1.0	1		06/07/16 10:00		
Field Oxidation Potential	**-121**	mV			1		06/07/16 10:00		
Oxygen, Dissolved	**0.78**	mg/L			1		06/07/16 10:00	7782-44-7	
Turbidity	**0.59**	NTU	1.0	1.0	1		06/07/16 10:00		
Groundwater Elevation	**521.39**	feet			1		06/07/16 10:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5590**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 19:18	7440-42-8	
Calcium	**100**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 19:18	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 19:18	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.12J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 13:05	7440-36-0	B
Arsenic	**27.3**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:05	7440-38-2	
Barium	**337**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 13:05	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 13:05	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 13:05	7440-43-9	
Chromium	**0.35J**	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 13:05	7440-47-3	
Cobalt	**1.2**	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:05	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 13:05	7439-92-1	
Molybdenum	**31.1**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:05	7439-98-7	
Selenium	**0.25J**	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 13:05	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:05	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 10:12	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**728**	mg/L	5.0	5.0	1		06/13/16 10:46		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**152**	mg/L	10.0	5.0	10		06/16/16 01:04	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.073	1		06/16/16 01:48	16984-48-8	
Sulfate	**51.2**	mg/L	5.0	1.2	5		06/16/16 02:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-310 **Lab ID: 60220969010** Collected: 06/07/16 08:30 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/07/16 08:30		
Field pH	**7.21**	Std. Units	0.10	0.050	1		06/07/16 08:30		
Field Temperature	**12.2**	deg C	0.50	0.25	1		06/07/16 08:30		
Field Specific Conductance	**3,170**	umhos/cm	1.0	1.0	1		06/07/16 08:30		
Field Oxidation Potential	**-122**	mV			1		06/07/16 08:30		
Oxygen, Dissolved	**0.98**	mg/L			1		06/07/16 08:30	7782-44-7	
Turbidity	**0.2**	NTU	1.0	1.0	1		06/07/16 08:30		
Groundwater Elevation	**524.13**	feet			1		06/07/16 08:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**422**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 19:22	7440-42-8	
Calcium	**181**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 19:22	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 19:22	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.12J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 13:10	7440-36-0	B
Arsenic	**60.2**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:10	7440-38-2	
Barium	**829**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 13:10	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 13:10	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 13:10	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 13:10	7440-47-3	
Cobalt	**2.7**	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:10	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 13:10	7439-92-1	
Molybdenum	**3.9**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:10	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 13:10	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 10:15	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1040**	mg/L	5.0	5.0	1		06/13/16 10:46		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**196**	mg/L	10.0	5.0	10		06/16/16 02:18	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	0.073	1		06/16/16 02:33	16984-48-8	
Sulfate	**47.7**	mg/L	5.0	1.2	5		06/16/16 02:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: MW-311 **Lab ID: 60220969011** Collected: 06/07/16 09:10 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/07/16 09:10		
Field pH	**7.28**	Std. Units	0.10	0.050	1		06/07/16 09:10		
Field Temperature	**11.6**	deg C	0.50	0.25	1		06/07/16 09:10		
Field Specific Conductance	**2,425**	umhos/cm	1.0	1.0	1		06/07/16 09:10		
Field Oxidation Potential	**-69.7**	mV			1		06/07/16 09:10		
Oxygen, Dissolved	**1.01**	mg/L			1		06/07/16 09:10	7782-44-7	
Turbidity	**1.05**	NTU	1.0	1.0	1		06/07/16 09:10		
Groundwater Elevation	**521.8**	feet			1		06/07/16 09:10		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2070**	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 19:25	7440-42-8	
Calcium	**164**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 19:25	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 19:25	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.12J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 13:14	7440-36-0	B
Arsenic	**12.4**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:14	7440-38-2	
Barium	**248**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 13:14	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 13:14	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 13:14	7440-43-9	
Chromium	**0.42J**	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 13:14	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:14	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 13:14	7439-92-1	
Molybdenum	**11.7**	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:14	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 13:14	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 10:17	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**843**	mg/L	5.0	5.0	1		06/13/16 10:47		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**75.4**	mg/L	10.0	5.0	10		06/16/16 03:03	16887-00-6	
Fluoride	**0.27**	mg/L	0.20	0.073	1		06/16/16 03:18	16984-48-8	
Sulfate	**179**	mg/L	10.0	2.5	10		06/16/16 03:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25215173.10
Pace Project No.: 60220969

Sample: FIELD BLANK **Lab ID: 60220969012** Collected: 06/06/16 19:45 Received: 06/09/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	ND	ug/L	100	50.0	1	06/10/16 14:00	06/14/16 19:29	7440-42-8	
Calcium	**0.032J**	mg/L	0.10	0.0081	1	06/10/16 14:00	06/14/16 19:29	7440-70-2	B
Lithium	ND	ug/L	10.0	4.9	1	06/10/16 14:00	06/14/16 19:29	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.094J**	ug/L	1.0	0.058	1	06/15/16 16:15	06/16/16 13:18	7440-36-0	B
Arsenic	ND	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:18	7440-38-2	
Barium	**0.18J**	ug/L	1.0	0.14	1	06/15/16 16:15	06/16/16 13:18	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	06/15/16 16:15	06/16/16 13:18	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	06/15/16 16:15	06/16/16 13:18	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	06/15/16 16:15	06/16/16 13:18	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:18	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	06/15/16 16:15	06/16/16 13:18	7439-92-1	
Molybdenum	ND	ug/L	1.0	0.10	1	06/15/16 16:15	06/16/16 13:18	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	06/15/16 16:15	06/16/16 13:18	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	06/15/16 16:15	06/16/16 13:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	06/15/16 16:10	06/20/16 10:19	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	5.0	5.0	1		06/10/16 09:56		
9040 pH	Analytical Method: EPA 9040								
pH	**6.2**	Std. Units	0.10	0.10	1		06/13/16 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	ND	mg/L	1.0	0.50	1		06/16/16 03:48	16887-00-6	
Fluoride	ND	mg/L	0.20	0.073	1		06/16/16 03:48	16984-48-8	
Sulfate	ND	mg/L	1.0	0.25	1		06/16/16 03:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60220969

QC Batch: MERP/10719 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969009, 60220969010, 60220969011, 60220969012

METHOD BLANK: 1776950 Matrix: Water
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969009, 60220969010, 60220969011, 60220969012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.039	06/17/16 16:16	

LABORATORY CONTROL SAMPLE: 1776951

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1776952 1776953

Parameter	Units	60220969001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	3.6	3.6	73	72	75-125	1	20	M1

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/25215173.10
Pace Project No.: 60220969

QC Batch: MPRP/36304 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969009, 60220969010, 60220969011, 60220969012

METHOD BLANK: 1774592 Matrix: Water
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969009, 60220969010, 60220969011, 60220969012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	50.0	06/14/16 18:30	
Calcium	mg/L	0.47	0.10	0.0081	06/14/16 18:30	
Lithium	ug/L	ND	10.0	4.9	06/14/16 18:30	

LABORATORY CONTROL SAMPLE: 1774593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	994	99	80-120	
Calcium	mg/L	10	10.1	101	80-120	
Lithium	ug/L	1000	1060	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1774594 1774595

Parameter	Units	60220969001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	10600	1000	1000	11400	11700	82	116	75-125	3	20	
Calcium	mg/L	100	10	10	109	112	83	111	75-125	3	20	
Lithium	ug/L	11.7	1000	1000	1100	1080	108	107	75-125	1	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/25215173.10
Pace Project No.: 60220969

QC Batch: MPRP/36355 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969009, 60220969010, 60220969011, 60220969012

METHOD BLANK: 1776746 Matrix: Water
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969009, 60220969010, 60220969011, 60220969012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	0.099J	1.0	0.058	06/16/16 12:05	
Arsenic	ug/L	ND	1.0	0.10	06/16/16 12:05	
Barium	ug/L	ND	1.0	0.14	06/16/16 12:05	
Beryllium	ug/L	ND	0.50	0.080	06/16/16 12:05	
Cadmium	ug/L	ND	0.50	0.029	06/16/16 12:05	
Chromium	ug/L	ND	1.0	0.34	06/16/16 12:05	
Cobalt	ug/L	ND	1.0	0.50	06/16/16 12:05	
Lead	ug/L	ND	1.0	0.19	06/16/16 12:05	
Molybdenum	ug/L	ND	1.0	0.10	06/16/16 12:05	
Selenium	ug/L	ND	1.0	0.18	06/16/16 12:05	
Thallium	ug/L	ND	1.0	0.50	06/16/16 12:05	

LABORATORY CONTROL SAMPLE: 1776747

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.6	99	80-120	
Arsenic	ug/L	40	39.7	99	80-120	
Barium	ug/L	40	39.6	99	80-120	
Beryllium	ug/L	40	41.4	103	80-120	
Cadmium	ug/L	40	40.1	100	80-120	
Chromium	ug/L	40	41.5	104	80-120	
Cobalt	ug/L	40	41.0	103	80-120	
Lead	ug/L	40	39.4	99	80-120	
Molybdenum	ug/L	40	42.7	107	80-120	
Selenium	ug/L	40	38.3	96	80-120	
Thallium	ug/L	40	38.1	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1776748 1776749

Parameter	Units	60220969001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.12J	40	40	40.9	40.9	102	102	75-125	0	20	
Arsenic	ug/L	35.0	40	40	75.6	74.9	101	100	75-125	1	20	
Barium	ug/L	239	40	40	282	277	106	95	75-125	2	20	
Beryllium	ug/L	ND	40	40	38.2	37.2	96	93	75-125	3	20	
Cadmium	ug/L	ND	40	40	39.3	39.2	98	98	75-125	0	20	
Chromium	ug/L	0.38J	40	40	42.4	42.1	105	104	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60220969

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1776748 1776749

Parameter	Units	60220969001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	ND	40	40	40.8	40.8	101	101	75-125	0	20	
Lead	ug/L	ND	40	40	37.7	37.3	94	93	75-125	1	20	
Molybdenum	ug/L	116	40	40	162	159	115	108	75-125	2	20	
Selenium	ug/L	ND	40	40	35.7	36.9	89	92	75-125	3	20	
Thallium	ug/L	ND	40	40	37.1	36.8	93	92	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60220969

QC Batch: WET/62328 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969012

METHOD BLANK: 1774194 Matrix: Water
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	06/10/16 09:44	

LABORATORY CONTROL SAMPLE: 1774195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	981	98	80-120	

SAMPLE DUPLICATE: 1774196

Parameter	Units	60220667001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	490	494	1	10	

SAMPLE DUPLICATE: 1774197

Parameter	Units	60220783001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	502	518	3	10	

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60220969

QC Batch: WET/62349 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60220969009, 60220969010, 60220969011

METHOD BLANK: 1775314 Matrix: Water
Associated Lab Samples: 60220969009, 60220969010, 60220969011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	06/13/16 10:39	

LABORATORY CONTROL SAMPLE: 1775315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	992	99	80-120	

SAMPLE DUPLICATE: 1775316

Parameter	Units	60220796001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	155	159	3	10	

SAMPLE DUPLICATE: 1775317

Parameter	Units	60220902001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	495	508	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60220969

QC Batch: WET/62369 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969009, 60220969010, 60220969011, 60220969012

SAMPLE DUPLICATE: 1775688

Parameter	Units	60220969004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	8.9	8.8	0	10	H6

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60220969

QC Batch: WETA/40081 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969009, 60220969010, 60220969011, 60220969012

METHOD BLANK: 1776897 Matrix: Water
Associated Lab Samples: 60220969001, 60220969002, 60220969003, 60220969004, 60220969005, 60220969006, 60220969007, 60220969008, 60220969009, 60220969010, 60220969011, 60220969012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	06/15/16 14:53	
Fluoride	mg/L	ND	0.20	0.073	06/15/16 14:53	
Sulfate	mg/L	ND	1.0	0.25	06/15/16 14:53	

LABORATORY CONTROL SAMPLE: 1776898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	80-120	
Fluoride	mg/L	2.5	2.5	102	80-120	
Sulfate	mg/L	5	5.0	100	80-120	

SAMPLE DUPLICATE: 1776901

Parameter	Units	60220841001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.77	ND			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60220969

QC Batch: WETA/40098 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60220969004, 60220969006

METHOD BLANK: 1777509 Matrix: Water
Associated Lab Samples: 60220969004, 60220969006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	06/16/16 15:23	

LABORATORY CONTROL SAMPLE: 1777510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1777511 1777512

Parameter	Units	60220841001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.9	5	5	6.6	6.5	74	72	80-120	2	15	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60220969

QC Batch: WETA/40134
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Associated Lab Samples: 60220969001

METHOD BLANK: 1778841 Matrix: Water
Associated Lab Samples: 60220969001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.20	0.073	06/18/16 16:26	

LABORATORY CONTROL SAMPLE: 1778842

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1778843 1778844

Parameter	Units	60220969001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.29	2.5	2.5	2.5	2.5	90	90	80-120	1	15	

SAMPLE DUPLICATE: 1778845

Parameter	Units	60221419008 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.22	0.22	1	15	

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QUALITY CONTROL DATA

Project: Burlington/25215173.10
Pace Project No.: 60220969

QC Batch: WETA/40141
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Associated Lab Samples: 60220969001

METHOD BLANK: 1779036
Matrix: Water
Associated Lab Samples: 60220969001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	06/19/16 09:59	
Sulfate	mg/L	ND	1.0	0.25	06/19/16 09:59	

LABORATORY CONTROL SAMPLE: 1779037

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	80-120	
Sulfate	mg/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1779038 1779039

Parameter	Units	60220969001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	22.4	10	10	33.8	33.8	114	114	80-120	0	15	
Sulfate	mg/L	170	100	100	168	171	-1	1	80-120	1	15	M1

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Burlington/25215173.10
Pace Project No.: 60220969

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.

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.

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

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25215173.10
Pace Project No.: 60220969

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60220969001	MW-301		FLD/17341		
60220969002	MW-302		FLD/17341		
60220969003	MW-303		FLD/17341		
60220969004	MW-304		FLD/17341		
60220969005	MW-305		FLD/17341		
60220969006	MW-306		FLD/17341		
60220969007	MW-307		FLD/17341		
60220969008	MW-308		FLD/17341		
60220969009	MW-309		FLD/17341		
60220969010	MW-310		FLD/17341		
60220969011	MW-311		FLD/17341		
60220969001	MW-301	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969002	MW-302	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969003	MW-303	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969004	MW-304	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969005	MW-305	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969006	MW-306	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969007	MW-307	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969008	MW-308	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969009	MW-309	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969010	MW-310	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969011	MW-311	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969012	FIELD BLANK	EPA 3010	MPRP/36304	EPA 6010	ICP/26465
60220969001	MW-301	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969002	MW-302	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969003	MW-303	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969004	MW-304	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969005	MW-305	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969006	MW-306	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969007	MW-307	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969008	MW-308	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969009	MW-309	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969010	MW-310	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969011	MW-311	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969012	FIELD BLANK	EPA 3010	MPRP/36355	EPA 6020	ICPM/4329
60220969001	MW-301	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969002	MW-302	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969003	MW-303	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969004	MW-304	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969005	MW-305	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969006	MW-306	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969007	MW-307	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969008	MW-308	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969009	MW-309	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969010	MW-310	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969011	MW-311	EPA 7470	MERP/10719	EPA 7470	MERC/10664
60220969012	FIELD BLANK	EPA 7470	MERP/10719	EPA 7470	MERC/10664

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25215173.10
Pace Project No.: 60220969

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60220969001	MW-301	SM 2540C	WET/62328		
60220969002	MW-302	SM 2540C	WET/62328		
60220969003	MW-303	SM 2540C	WET/62328		
60220969004	MW-304	SM 2540C	WET/62328		
60220969005	MW-305	SM 2540C	WET/62328		
60220969006	MW-306	SM 2540C	WET/62328		
60220969007	MW-307	SM 2540C	WET/62328		
60220969008	MW-308	SM 2540C	WET/62328		
60220969009	MW-309	SM 2540C	WET/62349		
60220969010	MW-310	SM 2540C	WET/62349		
60220969011	MW-311	SM 2540C	WET/62349		
60220969012	FIELD BLANK	SM 2540C	WET/62328		
60220969001	MW-301	EPA 9040	WET/62369		
60220969002	MW-302	EPA 9040	WET/62369		
60220969003	MW-303	EPA 9040	WET/62369		
60220969004	MW-304	EPA 9040	WET/62369		
60220969005	MW-305	EPA 9040	WET/62369		
60220969006	MW-306	EPA 9040	WET/62369		
60220969007	MW-307	EPA 9040	WET/62369		
60220969008	MW-308	EPA 9040	WET/62369		
60220969009	MW-309	EPA 9040	WET/62369		
60220969010	MW-310	EPA 9040	WET/62369		
60220969011	MW-311	EPA 9040	WET/62369		
60220969012	FIELD BLANK	EPA 9040	WET/62369		
60220969001	MW-301	EPA 9056	WETA/40081		
60220969001	MW-301	EPA 9056	WETA/40134		
60220969001	MW-301	EPA 9056	WETA/40141		
60220969002	MW-302	EPA 9056	WETA/40081		
60220969003	MW-303	EPA 9056	WETA/40081		
60220969004	MW-304	EPA 9056	WETA/40081		
60220969004	MW-304	EPA 9056	WETA/40098		
60220969005	MW-305	EPA 9056	WETA/40081		
60220969006	MW-306	EPA 9056	WETA/40081		
60220969006	MW-306	EPA 9056	WETA/40098		
60220969007	MW-307	EPA 9056	WETA/40081		
60220969008	MW-308	EPA 9056	WETA/40081		
60220969009	MW-309	EPA 9056	WETA/40081		
60220969010	MW-310	EPA 9056	WETA/40081		
60220969011	MW-311	EPA 9056	WETA/40081		
60220969012	FIELD BLANK	EPA 9056	WETA/40081		

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Sample Condition Upon Receipt

WO# : 60220969

60220969

Client Name: SCS

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 788090050770 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: CF -0.1 T-239 / CF 0.0 T-262

Type of Ice: (Wet) Blue None ☐ Samples received on ice, cooling process has begun. (circle one)

Cooler Temperature: 1.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pw 6/9/16

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes ☐No ☑N/A	18.

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: JoA Date: 6.9.16

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical
www.pacelabs.com

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

Page: 1 of 1

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:	25215173.10_

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 Total Metals: B-Ca-Li	6020 Total Metals *	7470 Total Hg	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-301	WT	G	xxx	xxx	6-6-16	1745		2	1		1						N	X	X	X	X	X	X		60220969 001
2	MW-302	WT	G	xxx	xxx		1700		2	1		1							X	X	X	X	X	X		002
3	MW-303	WT	G	xxx	xxx		1615		2	1		1							X	X	X	X	X	X		003
4	MW-304	WT	G	xxx	xxx		1525		2	1		1							X	X	X	X	X	X		004
5	MW-305	WT	G	xxx	xxx		2055		2	1		1							X	X	X	X	X	X		005
6	MW-306	WT	G	xxx	xxx		1925		2	1		1							X	X	X	X	X	X		006
7	MW-307	WT	G	xxx	xxx		2020		2	1		1							X	X	X	X	X	X		007
8	MW-308	WT	G	xxx	xxx		1845		2	1		1							X	X	X	X	X	X		008
9	MW-309	WT	G	xxx	xxx	6-7-16	1000		2	1		1							X	X	X	X	X	X		009
10	MW-310	WT	G	xxx	xxx		0830		2	1		1							X	X	X	X	X	X		010
11	MW-311	WT	G	xxx	xxx		0910		3	1		2							X	X	X	X	X	X		011
12	FIELD BLANK	WT	G	xxx	xxx	6-6-16	1945		2	1		1							X	X	X	X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Kyle Krumer	6-8-16	1045		6/9/16	0840	1.3	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Krumer

SIGNATURE of SAMPLER: Kyle Krumer

DATE Signed (MM/DD/YY): 6-8-16

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

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

Pace Analytical Services, Inc.
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(913)599-5665

July 01, 2016

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25215173.10
Pace Project No.: 60220982

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers

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CERTIFICATIONS

Project: Burlington/25215173.10
Pace Project No.: 60220982

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60220982001	**MW-301**	Water	06/06/16 17:45	06/09/16 08:40
60220982002	**MW-302**	Water	06/06/16 17:00	06/09/16 08:40
60220982003	**MW-303**	Water	06/06/16 16:15	06/09/16 08:40
60220982004	**MW-304**	Water	06/06/16 15:25	06/09/16 08:40
60220982005	**MW-305**	Water	06/06/16 20:55	06/09/16 08:40
60220982006	**MW-306**	Water	06/06/16 19:25	06/09/16 08:40
60220982007	**MW-307**	Water	06/06/16 20:20	06/09/16 08:40
60220982008	**MW-308**	Water	06/06/16 18:45	06/09/16 08:40
60220982009	**MW-309**	Water	06/07/16 10:00	06/09/16 08:40
60220982010	**MW-310**	Water	06/07/16 08:30	06/09/16 08:40
60220982011	**MW-311**	Water	06/07/16 09:10	06/09/16 08:40
60220982012	**FIELD BLANK**	Water	06/06/16 19:45	06/09/16 08:40

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SAMPLE ANALYTE COUNT

Project: Burlington/25215173.10
Pace Project No.: 60220982

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60220982001	**MW-301**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982002	**MW-302**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982003	**MW-303**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982004	**MW-304**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982005	**MW-305**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982006	**MW-306**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982007	**MW-307**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982008	**MW-308**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982009	**MW-309**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982010	**MW-310**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982011	**MW-311**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60220982012	**FIELD BLANK**	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-301 **Lab ID: 60220982001** Collected: 06/06/16 17:45 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.144 ± 0.346 (0.669) C:NA T:93%**	pCi/L	06/30/16 12:43	13982-63-3	
Radium-228	EPA 904.0	**0.789 ± 0.337 (0.545) C:85% T:85%**	pCi/L	06/24/16 23:23	15262-20-1	
Total Radium	Total Radium Calculation	**0.933 ± 0.683 (1.21)**	pCi/L	07/01/16 13:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-302 **Lab ID: 60220982002** Collected: 06/06/16 17:00 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.392 ± 0.446 (0.703) C:NA T:91%**	pCi/L	06/30/16 13:07	13982-63-3	
Radium-228	EPA 904.0	**0.715 ± 0.342 (0.573) C:81% T:77%**	pCi/L	06/24/16 23:23	15262-20-1	
Total Radium	Total Radium Calculation	**1.11 ± 0.788 (1.28)**	pCi/L	07/01/16 13:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-303 **Lab ID: 60220982003** Collected: 06/06/16 16:15 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.303 (0.616) C:NA T:91%**	pCi/L	06/30/16 12:42	13982-63-3	
Radium-228	EPA 904.0	**0.522 ± 0.335 (0.628) C:82% T:86%**	pCi/L	06/24/16 23:23	15262-20-1	
Total Radium	Total Radium Calculation	**0.522 ± 0.638 (1.24)**	pCi/L	07/01/16 13:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-304 **Lab ID: 60220982004** Collected: 06/06/16 15:25 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0649 ± 0.296 (0.602) C:NA T:91%**	pCi/L	06/30/16 12:55	13982-63-3	
Radium-228	EPA 904.0	**0.594 ± 0.345 (0.627) C:82% T:79%**	pCi/L	06/24/16 23:23	15262-20-1	
Total Radium	Total Radium Calculation	**0.659 ± 0.641 (1.23)**	pCi/L	07/01/16 13:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-305 **Lab ID: 60220982005** Collected: 06/06/16 20:55 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.529 ± 0.415 (0.487) C:NA T:88%**	pCi/L	06/30/16 13:06	13982-63-3	
Radium-228	EPA 904.0	**1.05 ± 0.402 (0.626) C:84% T:82%**	pCi/L	06/24/16 23:23	15262-20-1	
Total Radium	Total Radium Calculation	**1.58 ± 0.817 (1.11)**	pCi/L	07/01/16 13:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-306 **Lab ID: 60220982006** Collected: 06/06/16 19:25 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.144 ± 0.345 (0.667) C:NA T:85%**	pCi/L	06/30/16 13:08	13982-63-3	
Radium-228	EPA 904.0	**0.714 ± 0.367 (0.642) C:83% T:74%**	pCi/L	06/24/16 23:24	15262-20-1	
Total Radium	Total Radium Calculation	**0.858 ± 0.712 (1.31)**	pCi/L	07/01/16 13:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-307 **Lab ID: 60220982007** Collected: 06/06/16 20:20 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**-0.064 ± 0.331 (0.765) C:NA T:94%**	pCi/L	06/30/16 13:08	13982-63-3	
Radium-228	EPA 904.0	**0.258 ± 0.280 (0.568) C:79% T:91%**	pCi/L	06/24/16 23:20	15262-20-1	
Total Radium	Total Radium Calculation	**0.194 ± 0.611 (1.33)**	pCi/L	07/01/16 13:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-308 **Lab ID: 60220982008** Collected: 06/06/16 18:45 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.306 (0.623) C:NA T:91%**	pCi/L	06/30/16 12:53	13982-63-3	
Radium-228	EPA 904.0	**1.22 ± 0.435 (0.655) C:81% T:84%**	pCi/L	06/24/16 23:20	15262-20-1	
Total Radium	Total Radium Calculation	**1.22 ± 0.741 (1.28)**	pCi/L	07/01/16 13:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-309 **Lab ID: 60220982009** Collected: 06/07/16 10:00 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.561 ± 0.508 (0.749) C:NA T:93%**	pCi/L	06/30/16 13:43	13982-63-3	
Radium-228	EPA 904.0	**1.72 ± 0.494 (0.597) C:78% T:87%**	pCi/L	06/24/16 23:20	15262-20-1	
Total Radium	Total Radium Calculation	**2.28 ± 1.00 (1.35)**	pCi/L	07/01/16 13:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-310 **Lab ID: 60220982010** Collected: 06/07/16 08:30 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.839 ± 0.499 (0.475) C:NA T:91%**	pCi/L	06/30/16 12:54	13982-63-3	
Radium-228	EPA 904.0	**0.437 ± 0.355 (0.696) C:78% T:79%**	pCi/L	06/24/16 23:20	15262-20-1	
Total Radium	Total Radium Calculation	**1.28 ± 0.854 (1.17)**	pCi/L	07/01/16 13:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: MW-311 **Lab ID: 60220982011** Collected: 06/07/16 09:10 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.180 ± 0.275 (0.442) C:NA T:97%**	pCi/L	06/30/16 19:16	13982-63-3	
Radium-228	EPA 904.0	**1.04 ± 0.390 (0.596) C:79% T:85%**	pCi/L	06/24/16 23:20	15262-20-1	
Total Radium	Total Radium Calculation	**1.22 ± 0.665 (1.04)**	pCi/L	07/01/16 13:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

Sample: FIELD BLANK **Lab ID: 60220982012** Collected: 06/06/16 19:45 Received: 06/09/16 08:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.280 (0.451) C:NA T:93%**	pCi/L	06/30/16 19:05	13982-63-3	
Radium-228	EPA 904.0	**0.326 ± 0.313 (0.628) C:81% T:88%**	pCi/L	06/24/16 23:20	15262-20-1	
Total Radium	Total Radium Calculation	**0.326 ± 0.593 (1.08)**	pCi/L	07/01/16 13:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

QC Batch: RADC/29949 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60220982001, 60220982002, 60220982003, 60220982004, 60220982005, 60220982006

METHOD BLANK: 1092699 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.713 ± 0.386 (0.690) C:83% T:73%	pCi/L	06/24/16 23:21	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

QC Batch: RADC/29955 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60220982007, 60220982008, 60220982009, 60220982010, 60220982011, 60220982012

METHOD BLANK: 1092718 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.306 ± 0.326 (0.679) C:82% T:85%	pCi/L	06/24/16 19:37	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25215173.10
Pace Project No.: 60220982

QC Batch: RADC/29944 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60220982001, 60220982002, 60220982003, 60220982004, 60220982005, 60220982006, 60220982007, 60220982008, 60220982009, 60220982010, 60220982011, 60220982012

METHOD BLANK: 1092674 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.313 (0.505) C:NA T:93%	pCi/L	06/30/16 12:28	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: Burlington/25215173.10
Pace Project No.: 60220982

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.

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.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25215173.10
Pace Project No.: 60220982

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60220982001	**MW-301**	EPA 903.1	RADC/29944		
60220982002	**MW-302**	EPA 903.1	RADC/29944		
60220982003	**MW-303**	EPA 903.1	RADC/29944		
60220982004	**MW-304**	EPA 903.1	RADC/29944		
60220982005	**MW-305**	EPA 903.1	RADC/29944		
60220982006	**MW-306**	EPA 903.1	RADC/29944		
60220982007	**MW-307**	EPA 903.1	RADC/29944		
60220982008	**MW-308**	EPA 903.1	RADC/29944		
60220982009	**MW-309**	EPA 903.1	RADC/29944		
60220982010	**MW-310**	EPA 903.1	RADC/29944		
60220982011	**MW-311**	EPA 903.1	RADC/29944		
60220982012	**FIELD BLANK**	EPA 903.1	RADC/29944		
60220982001	**MW-301**	EPA 904.0	RADC/29949		
60220982002	**MW-302**	EPA 904.0	RADC/29949		
60220982003	**MW-303**	EPA 904.0	RADC/29949		
60220982004	**MW-304**	EPA 904.0	RADC/29949		
60220982005	**MW-305**	EPA 904.0	RADC/29949		
60220982006	**MW-306**	EPA 904.0	RADC/29949		
60220982007	**MW-307**	EPA 904.0	RADC/29955		
60220982008	**MW-308**	EPA 904.0	RADC/29955		
60220982009	**MW-309**	EPA 904.0	RADC/29955		
60220982010	**MW-310**	EPA 904.0	RADC/29955		
60220982011	**MW-311**	EPA 904.0	RADC/29955		
60220982012	**FIELD BLANK**	EPA 904.0	RADC/29955		
60220982001	**MW-301**	Total Radium Calculation	RADC/30186		
60220982002	**MW-302**	Total Radium Calculation	RADC/30186		
60220982003	**MW-303**	Total Radium Calculation	RADC/30186		
60220982004	**MW-304**	Total Radium Calculation	RADC/30186		
60220982005	**MW-305**	Total Radium Calculation	RADC/30186		
60220982006	**MW-306**	Total Radium Calculation	RADC/30186		
60220982007	**MW-307**	Total Radium Calculation	RADC/30186		
60220982008	**MW-308**	Total Radium Calculation	RADC/30186		
60220982009	**MW-309**	Total Radium Calculation	RADC/30187		
60220982010	**MW-310**	Total Radium Calculation	RADC/30187		
60220982011	**MW-311**	Total Radium Calculation	RADC/30187		
60220982012	**FIELD BLANK**	Total Radium Calculation	RADC/30187		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60220982

60220982

Client Name: SCS

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 7833 9900 5069, 5058 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: CF -0.1 T-239 / CF 0.0 T-262 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.5 2.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 6/9

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☐Yes ☒No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☒N/A	
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes ☐No ☒N/A	18.

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: JPS Date: 6.9.16

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

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:	25215173.10_

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	903.1 Radium-226	904.0 Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60220962
1	MW-301	WT	G	xxx	xxx	6-6-16	1745		2			2						X	X	X		(2) BP1U	001
2	MW-302	WT	G	xxx	xxx		1700		2			2						X	X	X			002
3	MW-303	WT	G	xxx	xxx		1615		2			2						X	X	X			003
4	MW-304	WT	G	xxx	xxx		1525		2			2						X	X	X			004
5	MW-305	WT	G	xxx	xxx		2055		2			2						X	X	X			005
6	MW-306	WT	G	xxx	xxx		1925		2			2						X	X	X			006
7	MW-307	WT	G	xxx	xxx		2020		2			2						X	X	X			007
8	MW-308	WT	G	xxx	xxx		1845		2			2						X	X	X			008
9	MW-309	WT	G	xxx	xxx	6-7-16	1000		2			2						X	X	X			009
10	MW-310	WT	G	xxx	xxx		0830		2			2						X	X	X			010
11	MW-311	WT	G	xxx	xxx		0910		2			2						X	X	X			011
12	FIELD BLANK	WT	G	xxx	xxx	6-6-16	1945		2			2						X	X	X			012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219		6-8-16	1645		6/9	0840	1.5	Y	Y	Y
							2.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6-8-16

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

Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: 60220982 **Workorder Name:** Burlington/25215173.10 **Owner Received Date:** 6/9/2016 **Results Requested By:** 7/1/2016

Report To	Subcontract To
Trudy Gipson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO#:30186064

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: 903.1 Radium-226	904.0 Radium-228	Total Radoim										LAB USE ONLY
1	MW-301	PS	6/6/2016 17:45	60220982001	Water	2						X	X	X										001
2	MW-302	PS	6/6/2016 17:00	60220982002	Water	2						X	X	X										002
3	MW-303	PS	6/6/2016 16:15	60220982003	Water	2						X	X	X										003
4	MW-304	PS	6/6/2016 15:25	60220982004	Water	2						X	X	X										004
5	MW-305	PS	6/6/2016 20:55	60220982005	Water	2						X	X	X										005
6	MW-306	PS	6/6/2016 19:25	60220982006	Water	2						X	X	X										006
7	MW-307	PS	6/6/2016 20:20	60220982007	Water	2						X	X	X										007
8	MW-308	PS	6/6/2016 18:45	60220982008	Water	2						X	X	X										008
9	MW-309	PS	6/7/2016 10:00	60220982009	Water	2						X	X	X										009
10	MW-310	PS	6/7/2016 08:30	60220982010	Water	2						X	X	X										010
11	MW-311	PS	6/7/2016 09:10	60220982011	Water	2						X	X	X										011
12	FIELD BLANK	PS	6/6/2016 19:45	60220982012	Water	2						X	X	X										012

Transfers	Released By	Date/Time	Received	Date/Time
1	[signature]	6/9/16 1720	Robert E. Hill	6/10/16 0925
2				
3				

Comments

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

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

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace Kansas Project # 30186064

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

Tracking #: 6703 1644 4206

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

Thermometer Used N/A **Type of Ice:** Wet Blue (None)

Cooler Temperature **Observed Temp** N/A °C Correction Factor: N/A °C Final Temp: N/A °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KH 6/10/16

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:	✓			8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Filtered volume received for Dissolved tests			✓	12.
All containers needing preservation have been checked. All containers needing preservation are found to be in compliance with EPA recommendation.	✓ ✓			13.
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed KH Date/time of preservation; Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	14.
Trip Blank Present:			✓	15.
Trip Blank Custody Seals Present			✓	

Client Notification/ Resolution:

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

Comments/ Resolution: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

A3 Round 3 Background Sampling, Analytical Laboratory Report

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

August 30, 2016

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.00
Pace Project No.: 60226029

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: Burlington/25216066.00
Pace Project No.: 60226029

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60226029001	**MW-301**	Water	08/16/16 18:30	08/19/16 09:20
60226029002	**MW-302**	Water	08/16/16 17:35	08/19/16 09:20
60226029003	**MW-303**	Water	08/16/16 16:40	08/19/16 09:20
60226029004	**MW-304**	Water	08/16/16 15:50	08/19/16 09:20
60226029005	**MW-305**	Water	08/17/16 11:20	08/19/16 09:20
60226029006	**MW-306**	Water	08/17/16 10:40	08/19/16 09:20
60226029007	**MW-307**	Water	08/17/16 09:40	08/19/16 09:20
60226029008	**MW-308**	Water	08/17/16 08:35	08/19/16 09:20
60226029009	**MW-309**	Water	08/16/16 19:15	08/19/16 09:20
60226029010	**MW-310**	Water	08/16/16 20:15	08/19/16 09:20
60226029011	**MW-311**	Water	08/16/16 20:50	08/19/16 09:20
60226029012	**FIELD BLANK**	Water	08/17/16 09:05	08/19/16 09:20

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60226029

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60226029001	MW-301	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029002	MW-302	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029003	MW-303	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029004	MW-304	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029005	MW-305	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029006	MW-306	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029007	MW-307	EPA 6010	NDJ	3	PASI-K

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60226029

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029008	**MW-308**	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029009	**MW-309**	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029010	**MW-310**	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029011	**MW-311**	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60226029012	**FIELD BLANK**	EPA 6010	NDJ	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	ZBM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-301 **Lab ID: 60226029001** Collected: 08/16/16 18:30 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/16 18:30		
Field pH	**7.53**	Std. Units	0.10	0.050	1		08/16/16 18:30		
Field Temperature	**13.5**	deg C	0.50	0.25	1		08/16/16 18:30		
Field Specific Conductance	**2499**	umhos/cm	1.0	1.0	1		08/16/16 18:30		
Field Oxidation Potential	**-162.3**	mV			1		08/16/16 18:30		
Oxygen, Dissolved	**0.11**	mg/L			1		08/16/16 18:30	7782-44-7	
Turbidity	**0.51**	NTU	1.0	1.0	1		08/16/16 18:30		
Groundwater Elevation	**521.81**	feet			1		08/16/16 18:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**13100**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 11:43	7440-42-8	M1
Calcium	**178**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 11:43	7440-70-2	M1
Lithium	ND	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 11:43	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.13J**	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 11:49	7440-36-0	
Arsenic	**44.1**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 11:49	7440-38-2	
Barium	**406**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 11:49	7440-39-3	M1
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 11:49	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 11:49	7440-43-9	
Chromium	**0.56J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 11:49	7440-47-3	
Cobalt	**0.52J**	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 11:49	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 11:49	7439-92-1	
Molybdenum	**94.5**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 11:49	7439-98-7	
Selenium	**0.29J**	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 11:49	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 11:49	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 14:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**857**	mg/L	5.0	5.0	1		08/22/16 14:39		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**22.3**	mg/L	2.0	1.0	2		08/27/16 13:46	16887-00-6	
Fluoride	**0.43**	mg/L	0.20	0.027	1		08/26/16 15:04	16984-48-8	
Sulfate	**206**	mg/L	20.0	3.1	20		08/26/16 16:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-302 **Lab ID: 60226029002** Collected: 08/16/16 17:35 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/16 17:35		
Field pH	**8.30**	Std. Units	0.10	0.050	1		08/16/16 17:35		
Field Temperature	**13.6**	deg C	0.50	0.25	1		08/16/16 17:35		
Field Specific Conductance	**34.4**	umhos/cm	1.0	1.0	1		08/16/16 17:35		
Field Oxidation Potential	**-167.1**	mV			1		08/16/16 17:35		
Oxygen, Dissolved	**9.35**	mg/L			1		08/16/16 17:35	7782-44-7	
Turbidity	**0.19**	NTU	1.0	1.0	1		08/16/16 17:35		
Groundwater Elevation	**521.35**	feet			1		08/16/16 17:35		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**9050**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 11:49	7440-42-8	
Calcium	**231**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 11:49	7440-70-2	
Lithium	**37.6**	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 11:49	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:02	7440-36-0	
Arsenic	**64.1**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:02	7440-38-2	
Barium	**361**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:02	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:02	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:02	7440-43-9	
Chromium	**0.45J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:02	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:02	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:02	7439-92-1	
Molybdenum	**92.5**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:02	7439-98-7	
Selenium	**0.27J**	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:02	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:01	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**988**	mg/L	5.0	5.0	1		08/22/16 14:40		
9040 pH	Analytical Method: EPA 9040								
pH	**7.6**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**16.1**	mg/L	1.0	0.50	1		08/26/16 16:15	16887-00-6	
Fluoride	**0.080J**	mg/L	0.20	0.027	1		08/26/16 16:15	16984-48-8	
Sulfate	**669**	mg/L	50.0	7.7	50		08/26/16 16:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-303 **Lab ID: 60226029003** Collected: 08/16/16 16:40 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/16 16:40		
Field pH	**7.57**	Std. Units	0.10	0.050	1		08/16/16 16:40		
Field Temperature	**14.2**	deg C	0.50	0.25	1		08/16/16 16:40		
Field Specific Conductance	**1271.0**	umhos/cm	1.0	1.0	1		08/16/16 16:40		
Field Oxidation Potential	**-184.4**	mV			1		08/16/16 16:40		
Oxygen, Dissolved	**1.31**	mg/L			1		08/16/16 16:40	7782-44-7	
Turbidity	**0.24**	NTU	1.0	1.0	1		08/16/16 16:40		
Groundwater Elevation	**521.31**	feet			1		08/16/16 16:40		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**26700**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 11:56	7440-42-8	
Calcium	**81.3**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 11:56	7440-70-2	
Lithium	**24.0**	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 11:56	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:06	7440-36-0	
Arsenic	**44.5**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:06	7440-38-2	
Barium	**230**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:06	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:06	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:06	7440-43-9	
Chromium	**0.40J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:06	7440-47-3	
Cobalt	**0.55J**	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:06	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:06	7439-92-1	
Molybdenum	**39.4**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:06	7439-98-7	
Selenium	**0.30J**	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:06	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:08	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**440**	mg/L	5.0	5.0	1		08/22/16 14:40		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**16.3**	mg/L	1.0	0.50	1		08/26/16 16:44	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	0.027	1		08/26/16 16:44	16984-48-8	
Sulfate	**14.8**	mg/L	1.0	0.15	1		08/26/16 16:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-304 **Lab ID: 60226029004** Collected: 08/16/16 15:50 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/16 15:50		
Field pH	**9.42**	Std. Units	0.10	0.050	1		08/16/16 15:50		
Field Temperature	**14.4**	deg C	0.50	0.25	1		08/16/16 15:50		
Field Specific Conductance	**1840.0**	umhos/cm	1.0	1.0	1		08/16/16 15:50		
Field Oxidation Potential	**-301.0**	mV			1		08/16/16 15:50		
Oxygen, Dissolved	**4.79**	mg/L			1		08/16/16 15:50	7782-44-7	
Turbidity	**0.01**	NTU	1.0	1.0	1		08/16/16 15:50		
Groundwater Elevation	**521.37**	feet			1		08/16/16 15:50		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5050**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 11:58	7440-42-8	
Calcium	**144**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 11:58	7440-70-2	
Lithium	**48.5**	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 11:58	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.76J**	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:11	7440-36-0	
Arsenic	**64.3**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:11	7440-38-2	
Barium	**115**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:11	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:11	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:11	7440-43-9	
Chromium	**0.58J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:11	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:11	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:11	7439-92-1	
Molybdenum	**118**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:11	7439-98-7	
Selenium	**0.23J**	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:11	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:10	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**718**	mg/L	5.0	5.0	1		08/22/16 14:41		
9040 pH	Analytical Method: EPA 9040								
pH	**8.8**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**28.2**	mg/L	2.0	1.0	2		08/26/16 16:40	16887-00-6	
Fluoride	ND	mg/L	0.20	0.027	1		08/26/16 16:25	16984-48-8	
Sulfate	**383**	mg/L	50.0	7.7	50		08/26/16 16:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-305 **Lab ID: 60226029005** Collected: 08/17/16 11:20 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/17/16 11:20		
Field pH	**7.54**	Std. Units	0.10	0.050	1		08/17/16 11:20		
Field Temperature	**15.0**	deg C	0.50	0.25	1		08/17/16 11:20		
Field Specific Conductance	**1611.0**	umhos/cm	1.0	1.0	1		08/17/16 11:20		
Field Oxidation Potential	**-133.3**	mV			1		08/17/16 11:20		
Oxygen, Dissolved	**0.92**	mg/L			1		08/17/16 11:20	7782-44-7	
Turbidity	**0.41**	NTU	1.0	1.0	1		08/17/16 11:20		
Groundwater Elevation	**521.46**	feet			1		08/17/16 11:20		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**1750**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 12:00	7440-42-8	
Calcium	**95.1**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 12:00	7440-70-2	
Lithium	**17.2**	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 12:00	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:15	7440-36-0	
Arsenic	**0.33J**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:15	7440-38-2	
Barium	**208**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:15	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:15	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:15	7440-43-9	
Chromium	**0.57J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:15	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:15	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:15	7439-92-1	
Molybdenum	**1.2**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:15	7439-98-7	B
Selenium	**0.19J**	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:15	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:15	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:12	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**502**	mg/L	5.0	5.0	1		08/23/16 14:31		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**34.5**	mg/L	2.0	1.0	2		08/26/16 17:52	16887-00-6	
Fluoride	**0.30**	mg/L	0.20	0.027	1		08/26/16 17:08	16984-48-8	
Sulfate	**26.9**	mg/L	2.0	0.31	2		08/26/16 17:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-306 **Lab ID: 60226029006** Collected: 08/17/16 10:40 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/17/16 10:40		
Field pH	**6.37**	Std. Units	0.10	0.050	1		08/17/16 10:40		
Field Temperature	**14.8**	deg C	0.50	0.25	1		08/17/16 10:40		
Field Specific Conductance	**1000.0**	umhos/cm	1.0	1.0	1		08/17/16 10:40		
Field Oxidation Potential	**-155.5**	mV			1		08/17/16 10:40		
Oxygen, Dissolved	**1.91**	mg/L			1		08/17/16 10:40	7782-44-7	
Turbidity	**0.40**	NTU	1.0	1.0	1		08/17/16 10:40		
Groundwater Elevation	**521.53**	feet			1		08/17/16 10:40		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3300**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 12:03	7440-42-8	
Calcium	**41.2**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 12:03	7440-70-2	
Lithium	**39.5**	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 12:03	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.0**	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:33	7440-36-0	
Arsenic	**43.9**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:33	7440-38-2	
Barium	**18.8**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:33	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:33	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:33	7440-43-9	
Chromium	**0.40J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:33	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:33	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:33	7439-92-1	
Molybdenum	**80.9**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:33	7439-98-7	
Selenium	**0.81J**	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:33	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:15	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**348**	mg/L	5.0	5.0	1		08/23/16 14:32		
9040 pH	Analytical Method: EPA 9040								
pH	**6.1**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.6**	mg/L	2.0	1.0	2		08/26/16 19:18	16887-00-6	
Fluoride	**0.030J**	mg/L	0.20	0.027	1		08/26/16 18:35	16984-48-8	
Sulfate	**135**	mg/L	10.0	1.5	10		08/26/16 19:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-307 **Lab ID: 60226029007** Collected: 08/17/16 09:40 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/17/16 09:40		
Field pH	**10.60**	Std. Units	0.10	0.050	1		08/17/16 09:40		
Field Temperature	**14.2**	deg C	0.50	0.25	1		08/17/16 09:40		
Field Specific Conductance	**1064.0**	umhos/cm	1.0	1.0	1		08/17/16 09:40		
Field Oxidation Potential	**-212.1**	mV			1		08/17/16 09:40		
Oxygen, Dissolved	**6.01**	mg/L			1		08/17/16 09:40	7782-44-7	
Turbidity	**0.60**	NTU	1.0	1.0	1		08/17/16 09:40		
Groundwater Elevation	**521.91**	feet			1		08/17/16 09:40		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3720**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 12:05	7440-42-8	
Calcium	**31.3**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 12:05	7440-70-2	
Lithium	**42.4**	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 12:05	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.48J**	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:38	7440-36-0	
Arsenic	**57.1**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:38	7440-38-2	
Barium	**38.7**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:38	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:38	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:38	7440-43-9	
Chromium	**0.50J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:38	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:38	7440-48-4	
Lead	**0.36J**	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:38	7439-92-1	
Molybdenum	**142**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:38	7439-98-7	
Selenium	**0.46J**	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:38	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:17	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**386**	mg/L	5.0	5.0	1		08/23/16 14:32		
9040 pH	Analytical Method: EPA 9040								
pH	**9.8**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.4**	mg/L	2.0	1.0	2		08/26/16 20:01	16887-00-6	
Fluoride	**0.032J**	mg/L	0.20	0.027	1		08/26/16 19:47	16984-48-8	
Sulfate	**160**	mg/L	10.0	1.5	10		08/26/16 20:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-308 **Lab ID: 60226029008** Collected: 08/17/16 08:35 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/17/16 08:35		
Field pH	**9.95**	Std. Units	0.10	0.050	1		08/17/16 08:35		
Field Temperature	**14.3**	deg C	0.50	0.25	1		08/17/16 08:35		
Field Specific Conductance	**1533.0**	umhos/cm	1.0	1.0	1		08/17/16 08:35		
Field Oxidation Potential	**-213.7**	mV			1		08/17/16 08:35		
Oxygen, Dissolved	**0.16**	mg/L			1		08/17/16 08:35	7782-44-7	
Turbidity	**0.34**	NTU	1.0	1.0	1		08/17/16 08:35		
Groundwater Elevation	**521.56**	feet			1		08/17/16 08:35		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4870**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 12:07	7440-42-8	
Calcium	**35.1**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 12:07	7440-70-2	
Lithium	**41.5**	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 12:07	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.22J**	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:42	7440-36-0	
Arsenic	**84.2**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:42	7440-38-2	
Barium	**110**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:42	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:42	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:42	7440-43-9	
Chromium	**0.52J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:42	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:42	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:42	7439-92-1	
Molybdenum	**133**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:42	7439-98-7	
Selenium	**0.58J**	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:42	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:19	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**541**	mg/L	5.0	5.0	1		08/23/16 14:33		
9040 pH	Analytical Method: EPA 9040								
pH	**9.3**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**53.1**	mg/L	5.0	2.5	5		08/26/16 20:44	16887-00-6	
Fluoride	**0.078J**	mg/L	0.20	0.027	1		08/26/16 20:30	16984-48-8	
Sulfate	**180**	mg/L	20.0	3.1	20		08/26/16 20:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-309 **Lab ID: 60226029009** Collected: 08/16/16 19:15 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/16 19:15		
Field pH	**7.66**	Std. Units	0.10	0.050	1		08/16/16 19:15		
Field Temperature	**13.8**	deg C	0.50	0.25	1		08/16/16 19:15		
Field Specific Conductance	**228.5**	umhos/cm	1.0	1.0	1		08/16/16 19:15		
Field Oxidation Potential	**-150.9**	mV			1		08/16/16 19:15		
Oxygen, Dissolved	**2.36**	mg/L			1		08/16/16 19:15	7782-44-7	
Turbidity	**0.58**	NTU	1.0	1.0	1		08/16/16 19:15		
Groundwater Elevation	**521.70**	feet			1		08/16/16 19:15		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5180**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 12:09	7440-42-8	
Calcium	**99.2**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 12:09	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 12:09	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:46	7440-36-0	
Arsenic	**29.3**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:46	7440-38-2	
Barium	**316**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:46	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:46	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:46	7440-43-9	
Chromium	**0.53J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:46	7440-47-3	
Cobalt	**0.98J**	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:46	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:46	7439-92-1	
Molybdenum	**43.5**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:46	7439-98-7	
Selenium	**0.24J**	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:46	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:46	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:21	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**726**	mg/L	5.0	5.0	1		08/22/16 14:41		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**126**	mg/L	10.0	5.0	10		08/26/16 22:11	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.027	1		08/26/16 21:13	16984-48-8	
Sulfate	**100**	mg/L	10.0	1.5	10		08/26/16 22:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-310 **Lab ID: 60226029010** Collected: 08/16/16 20:15 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/16 20:15		
Field pH	**7.70**	Std. Units	0.10	0.050	1		08/16/16 20:15		
Field Temperature	**15.1**	deg C	0.50	0.25	1		08/16/16 20:15		
Field Specific Conductance	**2224.0**	umhos/cm	1.0	1.0	1		08/16/16 20:15		
Field Oxidation Potential	**-172.9**	mV			1		08/16/16 20:15		
Oxygen, Dissolved	**2.40**	mg/L			1		08/16/16 20:15	7782-44-7	
Turbidity	**0.83**	NTU	1.0	1.0	1		08/16/16 20:15		
Groundwater Elevation	**524.84**	feet			1		08/16/16 20:15		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**326**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 12:11	7440-42-8	
Calcium	**140**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 12:11	7440-70-2	
Lithium	ND	ug/L	20.0	9.8	2	08/22/16 16:30	08/23/16 13:03	7439-93-2	D3
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:51	7440-36-0	
Arsenic	**64.1**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:51	7440-38-2	
Barium	**589**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:51	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:51	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:51	7440-43-9	
Chromium	**0.85J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:51	7440-47-3	
Cobalt	**1.8**	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:51	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:51	7439-92-1	
Molybdenum	**4.4**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:51	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:51	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:23	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**703**	mg/L	5.0	5.0	1		08/22/16 14:42		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**96.9**	mg/L	10.0	5.0	10		08/26/16 23:08	16887-00-6	
Fluoride	**0.29**	mg/L	0.20	0.027	1		08/26/16 22:40	16984-48-8	
Sulfate	**54.0**	mg/L	5.0	0.77	5		08/26/16 22:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: MW-311 **Lab ID: 60226029011** Collected: 08/16/16 20:50 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/16 20:50		
Field pH	**7.63**	Std. Units	0.10	0.050	1		08/16/16 20:50		
Field Temperature	**13.0**	deg C	0.50	0.25	1		08/16/16 20:50		
Field Specific Conductance	**2304.0**	umhos/cm	1.0	1.0	1		08/16/16 20:50		
Field Oxidation Potential	**-139.0**	mV			1		08/16/16 20:50		
Oxygen, Dissolved	**0.83**	mg/L			1		08/16/16 20:50	7782-44-7	
Turbidity	**1.74**	NTU	1.0	1.0	1		08/16/16 20:50		
Groundwater Elevation	**522.92**	feet			1		08/16/16 20:50		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2320**	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 12:14	7440-42-8	
Calcium	**158**	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 12:14	7440-70-2	
Lithium	ND	ug/L	20.0	9.8	2	08/22/16 16:30	08/23/16 13:06	7439-93-2	D3
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 12:55	7440-36-0	
Arsenic	**16.4**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:55	7440-38-2	
Barium	**232**	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 12:55	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 12:55	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 12:55	7440-43-9	
Chromium	**0.51J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 12:55	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:55	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 12:55	7439-92-1	
Molybdenum	**12.5**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 12:55	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 12:55	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 12:55	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:26	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**799**	mg/L	5.0	5.0	1		08/22/16 14:43		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**77.4**	mg/L	5.0	2.5	5		08/26/16 23:37	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	0.027	1		08/26/16 23:23	16984-48-8	
Sulfate	**170**	mg/L	20.0	3.1	20		08/26/16 23:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60226029

Sample: FIELD BLANK **Lab ID: 60226029012** Collected: 08/17/16 09:05 Received: 08/19/16 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	ND	ug/L	100	50.0	1	08/22/16 16:30	08/23/16 12:16	7440-42-8	
Calcium	ND	mg/L	0.10	0.0081	1	08/22/16 16:30	08/23/16 12:16	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	08/22/16 16:30	08/23/16 12:16	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	08/22/16 16:30	08/24/16 13:00	7440-36-0	
Arsenic	ND	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 13:00	7440-38-2	
Barium	ND	ug/L	1.0	0.14	1	08/22/16 16:30	08/24/16 13:00	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	08/22/16 16:30	08/24/16 13:00	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	08/22/16 16:30	08/24/16 13:00	7440-43-9	
Chromium	**0.48J**	ug/L	1.0	0.34	1	08/22/16 16:30	08/24/16 13:00	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 13:00	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	08/22/16 16:30	08/24/16 13:00	7439-92-1	
Molybdenum	**0.14J**	ug/L	1.0	0.10	1	08/22/16 16:30	08/24/16 13:00	7439-98-7	B
Selenium	ND	ug/L	1.0	0.18	1	08/22/16 16:30	08/24/16 13:00	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	08/22/16 16:30	08/24/16 13:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	08/23/16 09:35	08/23/16 15:28	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**9.0**	mg/L	5.0	5.0	1		08/23/16 14:33		
9040 pH	Analytical Method: EPA 9040								
pH	**6.0**	Std. Units	0.10	0.10	1		08/22/16 09:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	ND	mg/L	1.0	0.50	1		08/27/16 00:06	16887-00-6	
Fluoride	ND	mg/L	0.20	0.027	1		08/27/16 00:06	16984-48-8	
Sulfate	ND	mg/L	1.0	0.15	1		08/27/16 00:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

QC Batch: 443693 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60226029001, 60226029002, 60226029003, 60226029004, 60226029005, 60226029006, 60226029007, 60226029008, 60226029009, 60226029010, 60226029011, 60226029012

METHOD BLANK: 1814556 Matrix: Water
Associated Lab Samples: 60226029001, 60226029002, 60226029003, 60226029004, 60226029005, 60226029006, 60226029007, 60226029008, 60226029009, 60226029010, 60226029011, 60226029012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.039	08/23/16 14:41	

LABORATORY CONTROL SAMPLE: 1814557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1814558 1814559

Parameter	Units	60225872001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.41	5	5	5.7	5.6	105	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

QC Batch: 443668 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60226029001, 60226029002, 60226029003, 60226029004, 60226029005, 60226029006, 60226029007, 60226029008, 60226029009, 60226029010, 60226029011, 60226029012

METHOD BLANK: 1814496 Matrix: Water
Associated Lab Samples: 60226029001, 60226029002, 60226029003, 60226029004, 60226029005, 60226029006, 60226029007, 60226029008, 60226029009, 60226029010, 60226029011, 60226029012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	50.0	08/23/16 11:41	
Calcium	mg/L	ND	0.10	0.0081	08/23/16 11:41	
Lithium	ug/L	ND	10.0	4.9	08/23/16 11:41	

LABORATORY CONTROL SAMPLE: 1814497

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	960	96	80-120	
Calcium	mg/L	10	10.1	101	80-120	
Lithium	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1814498 1814499

Parameter	Units	60226029001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	13100	1000	1000	14400	14500	131	146	75-125	1	20	M1
Calcium	mg/L	178	10	10	192	193	139	148	75-125	0	20	M1
Lithium	ug/L	ND	1000	1000	1060	1070	106	107	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

QC Batch: 443701 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60226029001, 60226029002, 60226029003, 60226029004, 60226029005, 60226029006, 60226029007, 60226029008, 60226029009, 60226029010, 60226029011, 60226029012

METHOD BLANK: 1814580 Matrix: Water
Associated Lab Samples: 60226029001, 60226029002, 60226029003, 60226029004, 60226029005, 60226029006, 60226029007, 60226029008, 60226029009, 60226029010, 60226029011, 60226029012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.058	08/24/16 11:40	
Arsenic	ug/L	ND	1.0	0.10	08/24/16 11:40	
Barium	ug/L	ND	1.0	0.14	08/24/16 11:40	
Beryllium	ug/L	ND	0.50	0.080	08/24/16 11:40	
Cadmium	ug/L	ND	0.50	0.029	08/24/16 11:40	
Chromium	ug/L	ND	1.0	0.34	08/24/16 11:40	
Cobalt	ug/L	ND	1.0	0.50	08/24/16 11:40	
Lead	ug/L	ND	1.0	0.19	08/24/16 11:40	
Molybdenum	ug/L	0.12J	1.0	0.10	08/24/16 11:40	
Selenium	ug/L	ND	1.0	0.18	08/24/16 11:40	
Thallium	ug/L	ND	1.0	0.50	08/24/16 11:40	

LABORATORY CONTROL SAMPLE: 1814581

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.9	102	80-120	
Arsenic	ug/L	40	41.7	104	80-120	
Barium	ug/L	40	41.1	103	80-120	
Beryllium	ug/L	40	39.8	100	80-120	
Cadmium	ug/L	40	40.8	102	80-120	
Chromium	ug/L	40	40.9	102	80-120	
Cobalt	ug/L	40	40.7	102	80-120	
Lead	ug/L	40	40.4	101	80-120	
Molybdenum	ug/L	40	42.3	106	80-120	
Selenium	ug/L	40	40.5	101	80-120	
Thallium	ug/L	40	39.1	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1814582 1814583

Parameter	Units	60226029001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.13J	40	40	41.5	41.6	103	104	75-125	0	20	
Arsenic	ug/L	44.1	40	40	85.5	84.3	104	100	75-125	1	20	
Barium	ug/L	406	40	40	458	452	130	115	75-125	1	20	M1
Beryllium	ug/L	ND	40	40	32.7	31.9	82	80	75-125	3	20	
Cadmium	ug/L	ND	40	40	38.2	38.3	95	96	75-125	0	20	
Chromium	ug/L	0.56J	40	40	41.3	40.7	102	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1814582 1814583

Parameter	Units	60226029001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	0.52J	40	40	39.1	39.1	96	96	75-125	0	20	
Lead	ug/L	ND	40	40	42.1	42.0	105	105	75-125	0	20	
Molybdenum	ug/L	94.5	40	40	139	136	112	105	75-125	2	20	
Selenium	ug/L	0.29J	40	40	38.8	39.0	96	97	75-125	1	20	
Thallium	ug/L	ND	40	40	40.8	40.7	101	101	75-125	0	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

QC Batch: 443671 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60226029001, 60226029002, 60226029003, 60226029004, 60226029009, 60226029010, 60226029011

METHOD BLANK: 1814513 Matrix: Water
Associated Lab Samples: 60226029001, 60226029002, 60226029003, 60226029004, 60226029009, 60226029010, 60226029011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	08/22/16 14:19	

LABORATORY CONTROL SAMPLE: 1814514

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	955	96	80-120	

SAMPLE DUPLICATE: 1814515

Parameter	Units	60225792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	7800	7700	1	10	

SAMPLE DUPLICATE: 1814516

Parameter	Units	60226029009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	726	718	1	10	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

QC Batch: 443884 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60226029005, 60226029006, 60226029007, 60226029008, 60226029012

METHOD BLANK: 1815159 Matrix: Water
Associated Lab Samples: 60226029005, 60226029006, 60226029007, 60226029008, 60226029012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	08/23/16 14:20	

LABORATORY CONTROL SAMPLE: 1815160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	978	98	80-120	

SAMPLE DUPLICATE: 1815161

Parameter	Units	60225865003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	8200	8400	2	10	

SAMPLE DUPLICATE: 1815162

Parameter	Units	60225902002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	293	298	2	10	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

QC Batch: 443621 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60226029001, 60226029002, 60226029003, 60226029004, 60226029005, 60226029006, 60226029007, 60226029008, 60226029009, 60226029010, 60226029011, 60226029012

SAMPLE DUPLICATE: 1814336

Parameter	Units	60225721003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	4.1	3.7	10	10	H6

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

QC Batch: 444291 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60226029001, 60226029002, 60226029003

METHOD BLANK: 1816740 Matrix: Water
Associated Lab Samples: 60226029001, 60226029002, 60226029003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	08/26/16 08:56	
Fluoride	mg/L	ND	0.20	0.027	08/26/16 08:56	
Sulfate	mg/L	ND	1.0	0.15	08/26/16 08:56	

LABORATORY CONTROL SAMPLE: 1816741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	80-120	
Fluoride	mg/L	2.5	2.4	97	80-120	
Sulfate	mg/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1816868 1816869

Parameter	Units	60226029003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.28	2.5	2.5	3.2	3.2	117	115	80-120	1	15	
Sulfate	mg/L	14.8	5	5	19.8	19.7	101	99	80-120	0	15	

SAMPLE DUPLICATE: 1816744

Parameter	Units	60225809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	114	108	6	15	
Fluoride	mg/L	2.6	2.7	3	15	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

QC Batch: 444322 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60226029004, 60226029005, 60226029006, 60226029007, 60226029008, 60226029009, 60226029010, 60226029011, 60226029012

METHOD BLANK: 1816929 Matrix: Water
Associated Lab Samples: 60226029004, 60226029005, 60226029006, 60226029007, 60226029008, 60226029009, 60226029010, 60226029011, 60226029012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	08/26/16 15:28	
Fluoride	mg/L	ND	0.20	0.027	08/26/16 15:28	
Sulfate	mg/L	ND	1.0	0.15	08/26/16 15:28	

LABORATORY CONTROL SAMPLE: 1816930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	80-120	
Fluoride	mg/L	2.5	2.4	94	80-120	
Sulfate	mg/L	5	4.6	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1816931 1816932

Parameter	Units	60226029005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.30	2.5	2.5	2.7	2.7	94	95	80-120	1	15	
Sulfate	mg/L	26.9	10	10	35.4	35.3	85	84	80-120	0	15	

SAMPLE DUPLICATE: 1816933

Parameter	Units	60226029009 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	126	124	2	15	
Fluoride	mg/L	0.35	0.35	0	15	
Sulfate	mg/L	100	98.6	1	15	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60226029

QC Batch: 444425
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Associated Lab Samples: 60226029001

METHOD BLANK: 1817681 Matrix: Water
Associated Lab Samples: 60226029001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	08/27/16 13:18	

LABORATORY CONTROL SAMPLE: 1817682

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1817683 1817684

Parameter	Units	60226029001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	22.3	10	10	31.6	31.5	93	93	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Burlington/25216066.00
Pace Project No.: 60226029

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.

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.

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

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60226029

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60226029001	MW-301		444142		
60226029002	MW-302		444142		
60226029003	MW-303		444142		
60226029004	MW-304		444142		
60226029005	MW-305		444142		
60226029006	MW-306		444142		
60226029007	MW-307		444142		
60226029008	MW-308		444142		
60226029009	MW-309		444142		
60226029010	MW-310		444142		
60226029011	MW-311		444142		
60226029001	MW-301	EPA 3010	443668	EPA 6010	443800
60226029002	MW-302	EPA 3010	443668	EPA 6010	443800
60226029003	MW-303	EPA 3010	443668	EPA 6010	443800
60226029004	MW-304	EPA 3010	443668	EPA 6010	443800
60226029005	MW-305	EPA 3010	443668	EPA 6010	443800
60226029006	MW-306	EPA 3010	443668	EPA 6010	443800
60226029007	MW-307	EPA 3010	443668	EPA 6010	443800
60226029008	MW-308	EPA 3010	443668	EPA 6010	443800
60226029009	MW-309	EPA 3010	443668	EPA 6010	443800
60226029010	MW-310	EPA 3010	443668	EPA 6010	443800
60226029011	MW-311	EPA 3010	443668	EPA 6010	443800
60226029012	FIELD BLANK	EPA 3010	443668	EPA 6010	443800
60226029001	MW-301	EPA 3010	443701	EPA 6020	443799
60226029002	MW-302	EPA 3010	443701	EPA 6020	443799
60226029003	MW-303	EPA 3010	443701	EPA 6020	443799
60226029004	MW-304	EPA 3010	443701	EPA 6020	443799
60226029005	MW-305	EPA 3010	443701	EPA 6020	443799
60226029006	MW-306	EPA 3010	443701	EPA 6020	443799
60226029007	MW-307	EPA 3010	443701	EPA 6020	443799
60226029008	MW-308	EPA 3010	443701	EPA 6020	443799
60226029009	MW-309	EPA 3010	443701	EPA 6020	443799
60226029010	MW-310	EPA 3010	443701	EPA 6020	443799
60226029011	MW-311	EPA 3010	443701	EPA 6020	443799
60226029012	FIELD BLANK	EPA 3010	443701	EPA 6020	443799
60226029001	MW-301	EPA 7470	443693	EPA 7470	443797
60226029002	MW-302	EPA 7470	443693	EPA 7470	443797
60226029003	MW-303	EPA 7470	443693	EPA 7470	443797
60226029004	MW-304	EPA 7470	443693	EPA 7470	443797
60226029005	MW-305	EPA 7470	443693	EPA 7470	443797
60226029006	MW-306	EPA 7470	443693	EPA 7470	443797
60226029007	MW-307	EPA 7470	443693	EPA 7470	443797
60226029008	MW-308	EPA 7470	443693	EPA 7470	443797
60226029009	MW-309	EPA 7470	443693	EPA 7470	443797
60226029010	MW-310	EPA 7470	443693	EPA 7470	443797
60226029011	MW-311	EPA 7470	443693	EPA 7470	443797
60226029012	FIELD BLANK	EPA 7470	443693	EPA 7470	443797

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60226029

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60226029001	**MW-301**	SM 2540C	443671		
60226029002	**MW-302**	SM 2540C	443671		
60226029003	**MW-303**	SM 2540C	443671		
60226029004	**MW-304**	SM 2540C	443671		
60226029005	**MW-305**	SM 2540C	443884		
60226029006	**MW-306**	SM 2540C	443884		
60226029007	**MW-307**	SM 2540C	443884		
60226029008	**MW-308**	SM 2540C	443884		
60226029009	**MW-309**	SM 2540C	443671		
60226029010	**MW-310**	SM 2540C	443671		
60226029011	**MW-311**	SM 2540C	443671		
60226029012	**FIELD BLANK**	SM 2540C	443884		
60226029001	**MW-301**	EPA 9040	443621		
60226029002	**MW-302**	EPA 9040	443621		
60226029003	**MW-303**	EPA 9040	443621		
60226029004	**MW-304**	EPA 9040	443621		
60226029005	**MW-305**	EPA 9040	443621		
60226029006	**MW-306**	EPA 9040	443621		
60226029007	**MW-307**	EPA 9040	443621		
60226029008	**MW-308**	EPA 9040	443621		
60226029009	**MW-309**	EPA 9040	443621		
60226029010	**MW-310**	EPA 9040	443621		
60226029011	**MW-311**	EPA 9040	443621		
60226029012	**FIELD BLANK**	EPA 9040	443621		
60226029001	**MW-301**	EPA 9056	444291		
60226029001	**MW-301**	EPA 9056	444425		
60226029002	**MW-302**	EPA 9056	444291		
60226029003	**MW-303**	EPA 9056	444291		
60226029004	**MW-304**	EPA 9056	444322		
60226029005	**MW-305**	EPA 9056	444322		
60226029006	**MW-306**	EPA 9056	444322		
60226029007	**MW-307**	EPA 9056	444322		
60226029008	**MW-308**	EPA 9056	444322		
60226029009	**MW-309**	EPA 9056	444322		
60226029010	**MW-310**	EPA 9056	444322		
60226029011	**MW-311**	EPA 9056	444322		
60226029012	**FIELD BLANK**	EPA 9056	444322		

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www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60226029

60226029

Client Name: SCS Eng.

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 7938 5841 3129 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: CF +1.1 CF -0.1 T-266 / T-239 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun. (circle one)

Cooler Temperature: 3.7, 2.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JAS 8/19/16 1010

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☑Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☑N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☑Yes ☐No	Initial when completed: JAS / Lot # of added preservative:
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased): N/A		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes ☐No ☑N/A	18.

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 8-19-16

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

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:	10 day

Section B Required Project Information:

Report To:	Meghan Blodgett
Copy To:	Tom Karwaski
Purchase Order No.:	
Project Name:	Burlington
Project Number:	25215173.10

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 Total Metals: B-Ca-Li	6020 Total Metals *	7470 Total Hg	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 6022602
																		N	N	N						
1	MW-301	WT	G	xxx	xxx	8/16/16	1830		3	1		2						X	X	X	X	X	X			1(BP2N) 2(BP3N)
2	MW-302	WT	G	xxx	xxx		1735		3	1		2						X	X	X	X	X	X			
3	MW-303	WT	G	xxx	xxx		1640		3	1		2						X	X	X	X	X	X			
4	MW-304	WT	G	xxx	xxx		1550		3	1		2						X	X	X	X	X	X			
5	MW-305	WT	G	xxx	xxx	8/17/16	1120		4	1		3						X	X	X	X	X	X			1(BP2N) 2(BP3N)
6	MW-306	WT	G	xxx	xxx		1040		3	1		2						X	X	X	X	X	X			1(BP2N) 2(BP3N)
7	MW-307	WT	G	xxx	xxx		0940		3	1		2						X	X	X	X	X	X			
8	MW-308	WT	G	xxx	xxx		0835		3	1		2						X	X	X	X	X	X			
9	MW-309	WT	G	xxx	xxx	8/16/16	1915		4	1		3						X	X	X	X	X	X			1(BP2N) 3(BP3N)
10	MW-310	WT	G	xxx	xxx		2015		3	1		2						X	X	X	X	X	X			1(BP2N) 2(BP3N)
11	MW-311	WT	G	xxx	xxx		2050		3	1		2						X	X	X	X	X	X			
12	FIELD BLANK	WT	G	xxx	xxx	8/4/16	0905		3	1		2						X	X	X	X	X	X			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Kyle Kramer	8/18/16	0915		8/19/16	920	3.7	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl							2-8	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: Kyle Kramer DATE Signed (MM/DD/YY): 8/18/16

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

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

September 14, 2016

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.00
Pace Project No.: 60226039

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Burlington/25216066.00
Pace Project No.: 60226039

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60226039001	**MW-301**	Water	08/16/16 18:30	08/19/16 09:20
60226039002	**MW-302**	Water	08/16/16 17:35	08/19/16 09:20
60226039003	**MW-303**	Water	08/16/16 16:40	08/19/16 09:20
60226039004	**MW-304**	Water	08/16/16 15:50	08/19/16 09:20
60226039005	**MW-305**	Water	08/17/16 11:20	08/19/16 09:20
60226039006	**MW-306**	Water	08/17/16 10:40	08/19/16 09:20
60226039007	**MW-307**	Water	08/17/16 09:40	08/19/16 09:20
60226039008	**MW-308**	Water	08/17/16 08:35	08/19/16 09:20
60226039009	**MW-309**	Water	08/16/16 19:15	08/19/16 09:20
60226039010	**MW-310**	Water	08/16/16 20:15	08/19/16 09:20
60226039011	**MW-311**	Water	08/16/16 20:50	08/19/16 09:20
60226039012	**FIELD BLANK**	Water	08/17/16 09:05	08/19/16 09:20

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60226039

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60226039001	MW-301	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039002	MW-302	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039003	MW-303	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039004	MW-304	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039005	MW-305	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039006	MW-306	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039007	MW-307	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039008	MW-308	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039009	MW-309	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039010	MW-310	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039011	MW-311	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60226039012	FIELD BLANK	EPA 903.1	AB1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-301 **Lab ID: 60226039001** Collected: 08/16/16 18:30 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.367 ± 0.511 (0.852) C:NA T:77%**	pCi/L	09/13/16 23:10	13982-63-3	
Radium-228	EPA 904.0	**1.66 ± 0.498 (0.605) C:79% T:76%**	pCi/L	09/10/16 02:03	15262-20-1	
Total Radium	Total Radium Calculation	**2.03 ± 1.01 (1.46)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-302 **Lab ID: 60226039002** Collected: 08/16/16 17:35 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.483 (0.866) C:NA T:80%**	pCi/L	09/13/16 22:58	13982-63-3	
Radium-228	EPA 904.0	**0.202 ± 0.286 (0.594) C:74% T:83%**	pCi/L	09/10/16 02:03	15262-20-1	
Total Radium	Total Radium Calculation	**0.202 ± 0.769 (1.46)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-303 **Lab ID: 60226039003** Collected: 08/16/16 16:40 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.269 ± 0.324 (0.495) C:NA T:94%**	pCi/L	09/13/16 23:09	13982-63-3	
Radium-228	EPA 904.0	**1.32 ± 0.428 (0.563) C:77% T:86%**	pCi/L	09/10/16 02:03	15262-20-1	
Total Radium	Total Radium Calculation	**1.59 ± 0.752 (1.06)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-304 **Lab ID: 60226039004** Collected: 08/16/16 15:50 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.220 ± 0.335 (0.539) C:NA T:83%**	pCi/L	09/13/16 22:42	13982-63-3	
Radium-228	EPA 904.0	**0.881 ± 0.406 (0.678) C:74% T:79%**	pCi/L	09/10/16 02:03	15262-20-1	
Total Radium	Total Radium Calculation	**1.10 ± 0.741 (1.22)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-305 **Lab ID: 60226039005** Collected: 08/17/16 11:20 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.143 ± 0.345 (0.666) C:NA T:91%**	pCi/L	09/13/16 22:41	13982-63-3	
Radium-228	EPA 904.0	**1.41 ± 0.442 (0.557) C:76% T:83%**	pCi/L	09/10/16 02:03	15262-20-1	
Total Radium	Total Radium Calculation	**1.55 ± 0.787 (1.22)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-306 **Lab ID: 60226039006** Collected: 08/17/16 10:40 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.358 (0.804) C:NA T:87%**	pCi/L	09/13/16 22:41	13982-63-3	
Radium-228	EPA 904.0	**0.208 ± 0.311 (0.648) C:73% T:79%**	pCi/L	09/10/16 02:22	15262-20-1	
Total Radium	Total Radium Calculation	**0.208 ± 0.669 (1.45)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-307 **Lab ID: 60226039007** Collected: 08/17/16 09:40 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0680 ± 0.311 (0.501) C:NA T:92%**	pCi/L	09/13/16 23:25	13982-63-3	
Radium-228	EPA 904.0	**0.814 ± 0.386 (0.640) C:71% T:78%**	pCi/L	09/10/16 02:03	15262-20-1	
Total Radium	Total Radium Calculation	**0.882 ± 0.697 (1.14)**	pCi/L	09/14/16 17:00	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-308 **Lab ID: 60226039008** Collected: 08/17/16 08:35 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0777 ± 0.355 (0.572) C:NA T:82%**	pCi/L	09/13/16 23:22	13982-63-3	
Radium-228	EPA 904.0	**0.298 ± 0.350 (0.714) C:72% T:77%**	pCi/L	09/10/16 02:03	15262-20-1	
Total Radium	Total Radium Calculation	**0.376 ± 0.705 (1.29)**	pCi/L	09/14/16 17:00	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-309 **Lab ID: 60226039009** Collected: 08/16/16 19:15 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.670 ± 0.574 (0.778) C:NA T:78%**	pCi/L	09/13/16 23:13	13982-63-3	
Radium-228	EPA 904.0	**1.07 ± 0.417 (0.634) C:75% T:79%**	pCi/L	09/10/16 02:04	15262-20-1	
Total Radium	Total Radium Calculation	**1.74 ± 0.991 (1.41)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-310 **Lab ID: 60226039010** Collected: 08/16/16 20:15 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.644 ± 0.569 (0.844) C:NA T:94%**	pCi/L	09/13/16 23:14	13982-63-3	
Radium-228	EPA 904.0	**1.35 ± 0.441 (0.587) C:75% T:84%**	pCi/L	09/10/16 02:04	15262-20-1	
Total Radium	Total Radium Calculation	**1.99 ± 1.01 (1.43)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: MW-311 **Lab ID: 60226039011** Collected: 08/16/16 20:50 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.605 ± 0.480 (0.624) C:NA T:91%**	pCi/L	09/13/16 23:13	13982-63-3	
Radium-228	EPA 904.0	**0.581 ± 0.368 (0.675) C:73% T:75%**	pCi/L	09/10/16 02:04	15262-20-1	
Total Radium	Total Radium Calculation	**1.19 ± 0.848 (1.30)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

Sample: FIELD BLANK **Lab ID: 60226039012** Collected: 08/17/16 09:05 Received: 08/19/16 09:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.130 ± 0.313 (0.605) C:NA T:94%**	pCi/L	09/13/16 23:12	13982-63-3	
Radium-228	EPA 904.0	**0.189 ± 0.299 (0.627) C:75% T:86%**	pCi/L	09/10/16 02:04	15262-20-1	
Total Radium	Total Radium Calculation	**0.319 ± 0.612 (1.23)**	pCi/L	09/14/16 17:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

QC Batch: 231992 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60226039001, 60226039002, 60226039003, 60226039004, 60226039005, 60226039006, 60226039007, 60226039008, 60226039009, 60226039010, 60226039011, 60226039012

METHOD BLANK: 1136737 Matrix: Water
Associated Lab Samples: 60226039001, 60226039002, 60226039003, 60226039004, 60226039005, 60226039006, 60226039007, 60226039008, 60226039009, 60226039010, 60226039011, 60226039012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.245 ± 0.341 (0.570) C:NA T:96%	pCi/L	09/13/16 22:43	

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 - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60226039

QC Batch: 231993 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60226039001, 60226039002, 60226039003, 60226039004, 60226039005, 60226039006, 60226039007, 60226039008, 60226039009, 60226039010, 60226039011, 60226039012

METHOD BLANK: 1136739 Matrix: Water
Associated Lab Samples: 60226039001, 60226039002, 60226039003, 60226039004, 60226039005, 60226039006, 60226039007, 60226039008, 60226039009, 60226039010, 60226039011, 60226039012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.693 ± 0.333 (0.567) C:79% T:89%	pCi/L	09/10/16 02:02	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Burlington/25216066.00
Pace Project No.: 60226039

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.

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.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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9608 Loiret Blvd.
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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60226039

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60226039001	**MW-301**	EPA 903.1	231992		
60226039002	**MW-302**	EPA 903.1	231992		
60226039003	**MW-303**	EPA 903.1	231992		
60226039004	**MW-304**	EPA 903.1	231992		
60226039005	**MW-305**	EPA 903.1	231992		
60226039006	**MW-306**	EPA 903.1	231992		
60226039007	**MW-307**	EPA 903.1	231992		
60226039008	**MW-308**	EPA 903.1	231992		
60226039009	**MW-309**	EPA 903.1	231992		
60226039010	**MW-310**	EPA 903.1	231992		
60226039011	**MW-311**	EPA 903.1	231992		
60226039012	**FIELD BLANK**	EPA 903.1	231992		
60226039001	**MW-301**	EPA 904.0	231993		
60226039002	**MW-302**	EPA 904.0	231993		
60226039003	**MW-303**	EPA 904.0	231993		
60226039004	**MW-304**	EPA 904.0	231993		
60226039005	**MW-305**	EPA 904.0	231993		
60226039006	**MW-306**	EPA 904.0	231993		
60226039007	**MW-307**	EPA 904.0	231993		
60226039008	**MW-308**	EPA 904.0	231993		
60226039009	**MW-309**	EPA 904.0	231993		
60226039010	**MW-310**	EPA 904.0	231993		
60226039011	**MW-311**	EPA 904.0	231993		
60226039012	**FIELD BLANK**	EPA 904.0	231993		
60226039001	**MW-301**	Total Radium Calculation	233240		
60226039002	**MW-302**	Total Radium Calculation	233240		
60226039003	**MW-303**	Total Radium Calculation	233240		
60226039004	**MW-304**	Total Radium Calculation	233240		
60226039005	**MW-305**	Total Radium Calculation	233240		
60226039006	**MW-306**	Total Radium Calculation	233240		
60226039007	**MW-307**	Total Radium Calculation	233240		
60226039008	**MW-308**	Total Radium Calculation	233240		
60226039009	**MW-309**	Total Radium Calculation	233240		
60226039010	**MW-310**	Total Radium Calculation	233240		
60226039011	**MW-311**	Total Radium Calculation	233240		
60226039012	**FIELD BLANK**	Total Radium Calculation	233240		

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Sample Condition Upon Receipt

WO#: 60226039

60226039

Client Name: SCS Eng.

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 7036 5041 8125 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: CF +1.1 T-266 CF -0.1 T-239 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 5.2, 3.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DS 8/19/16 1020

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☑Yes ☐No	Initial when completed N/A / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased): N/A		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes ☐No ☑N/A	18.

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: DS Date: 8-19-16

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

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:	10 day

Section B Required Project Information:

Report To:	Meghan Blodgett
Copy To:	Tom Karwaski
Purchase Order No.:	
Project Name:	Burlington
Project Number:	25215173.10

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	903.1 Radium-226	904.0 Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-301	WT	G	xxx	xxx	8/16/16	1830		2			2						X	X	X			
2	MW-302	WT	G	xxx	xxx		1735		2			2						X	X	X			
3	MW-303	WT	G	xxx	xxx		1640		2			2						X	X	X			
4	MW-304	WT	G	xxx	xxx		1550		2			2						X	X	X			
5	MW-305	WT	G	xxx	xxx	8/17/16	1120		2			2						X	X	X			
6	MW-306	WT	G	xxx	xxx		1040		2			2						X	X	X			
7	MW-307	WT	G	xxx	xxx		0940		2			2						X	X	X			
8	MW-308	WT	G	xxx	xxx		0835		2			2						X	X	X			
9	MW-309	WT	G	xxx	xxx	8/16/16	1915		2			2						X	X	X			
10	MW-310	WT	G	xxx	xxx		2015		2			2						X	X	X			
11	MW-311	WT	G	xxx	xxx		2050		2			2						X	X	X			
12	FIELD BLANK	WT	G	xxx	xxx	8/17/16	0905		2			2						X	X	X			

60226039

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Kyle Kramer	8/18/16	0915		8/19/16	920

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: Kyle Kramer DATE Signed (MM/DD/YY): 8/18/16

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

Chain of Custody

WO#:30193961

30193961

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Workorder: 60226039 **Workorder Name:** Burlington/25216066.00 **Owner Received Date:** 8/19/2016 **Results Requested By:** 9/14/2016

Report To	Subcontract To
Trudy Gipson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: 903.1 Radium-226	904.0 Radium-228	Total Radium										LAB USE ONLY
1	MW-301	PS	8/16/2016 18:30	60226039001	Water	2						X	X	X										001
2	MW-302	PS	8/16/2016 17:35	60226039002	Water	2						X	X	X										002
3	MW-303	PS	8/16/2016 16:40	60226039003	Water	2						X	X	X										003
4	MW-304	PS	8/16/2016 15:50	60226039004	Water	2						X	X	X										004
5	MW-305	PS	8/17/2016 11:20	60226039005	Water	2						X	X	X										005
6	MW-306	PS	8/17/2016 10:40	60226039006	Water	2						X	X	X										006
7	MW-307	PS	8/17/2016 09:40	60226039007	Water	2						X	X	X										007
8	MW-308	PS	8/17/2016 08:35	60226039008	Water	2						X	X	X										008
9	MW-309	PS	8/16/2016 19:15	60226039009	Water	2						X	X	X										009
10	MW-310	PS	8/16/2016 20:15	60226039010	Water	2						X	X	X										010
11	MW-311	PS	8/16/2016 20:50	60226039011	Water	2						X	X	X										011
12	FIELD BLANK	PS	8/17/2016 09:05	60226039012	Water	2						X	X	X										012

Transfers	Released By	Date/Time	Received	Date/Time
1		8/22/16 1700		8-23-16 0940
2				
3				

Comments

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

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

Sample Condition Upon Receipt Pittsburgh

30193961

Pace Analytical

Client Name: Pace KS Project # _____

Courier: [X] Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 670316479358

Custody Seal on Cooler/Box Present: ☐ yes [X] no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: NJV 8-23-16

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC:	X			5.
-Includes date/time/ID/Analysis Matrix: WT				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Filtered volume received for Dissolved tests			X	12.
All containers needing preservation have been checked.	X			13.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed NJV / Date/time of preservation / Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	14.
Trip Blank Present:			X	15.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: NJV / Date: 8-23-16

Client Notification/ Resolution:

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

Comments/ Resolution: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

A4 Round 4 Background Sampling, Analytical Laboratory Report

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 17, 2016

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066
Pace Project No.: 60229206

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2016. 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: Burlington/25216066
Pace Project No.: 60229206

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

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SAMPLE SUMMARY

Project: Burlington/25216066
Pace Project No.: 60229206

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60229206001	**MW-301**	Water	10/03/16 12:15	10/05/16 08:55
60229206002	**MW-302**	Water	10/03/16 11:00	10/05/16 08:55
60229206003	**MW-303**	Water	10/03/16 10:00	10/05/16 08:55
60229206004	**MW-304**	Water	10/03/16 09:15	10/05/16 08:55
60229206005	**MW-305**	Water	10/03/16 16:45	10/05/16 08:55
60229206006	**MW-306**	Water	10/03/16 17:35	10/05/16 08:55
60229206007	**MW-307**	Water	10/03/16 18:05	10/05/16 08:55
60229206008	**MW-308**	Water	10/03/16 13:05	10/05/16 08:55
60229206009	**MW-309**	Water	10/03/16 13:50	10/05/16 08:55
60229206010	**MW-310**	Water	10/03/16 14:35	10/05/16 08:55
60229206011	**MW-311**	Water	10/03/16 15:30	10/05/16 08:55
60229206012	**FIELD BLANK**	Water	10/03/16 17:10	10/05/16 08:55

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066
Pace Project No.: 60229206

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60229206001	**MW-301**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206002	**MW-302**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206003	**MW-303**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206004	**MW-304**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206005	**MW-305**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206006	**MW-306**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206007	**MW-307**	EPA 6010	SMW	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066
Pace Project No.: 60229206

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206008	**MW-308**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206009	**MW-309**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206010	**MW-310**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206011	**MW-311**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K
60229206012	**FIELD BLANK**	EPA 6010	SMW	3	PASI-K
		EPA 6020	SMW	11	PASI-K
		EPA 7470	NDJ	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HAC	1	PASI-K
		EPA 9056	OL	3	PASI-K

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-301 **Lab ID: 60229206001** Collected: 10/03/16 12:15 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**10500**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 13:48	7440-42-8	
Calcium	**131**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 13:48	7440-70-2	
Lithium	**22.8**	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 13:48	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.073J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 20:10	7440-36-0	B
Arsenic	**36.9**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:10	7440-38-2	
Barium	**294**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 20:10	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 20:10	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 20:10	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 20:10	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:10	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 20:10	7439-92-1	
Molybdenum	**114**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:10	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 20:10	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 11:41	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**729**	mg/L	5.0	5.0	1		10/06/16 10:02		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.6**	mg/L	2.0	1.0	2		10/15/16 13:24	16887-00-6	
Fluoride	**0.30**	mg/L	0.20	0.027	1		10/14/16 18:06	16984-48-8	
Sulfate	**378**	mg/L	50.0	7.7	50		10/15/16 14:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-302 **Lab ID: 60229206002** Collected: 10/03/16 11:00 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**9500**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 13:50	7440-42-8	
Calcium	**251**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 13:50	7440-70-2	
Lithium	**64.2**	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 13:50	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.096J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 20:14	7440-36-0	B
Arsenic	**73.5**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:14	7440-38-2	
Barium	**446**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 20:14	7440-39-3	M1
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 20:14	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 20:14	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 20:14	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:14	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 20:14	7439-92-1	
Molybdenum	**105**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:14	7439-98-7	
Selenium	**0.20J**	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 20:14	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 11:44	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**977**	mg/L	5.0	5.0	1		10/06/16 10:03		
9040 pH	Analytical Method: EPA 9040								
pH	**7.8**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.4**	mg/L	1.0	0.50	1		10/14/16 18:55	16887-00-6	
Fluoride	**0.086J**	mg/L	0.20	0.027	1		10/14/16 18:55	16984-48-8	
Sulfate	**579**	mg/L	50.0	7.7	50		10/15/16 15:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-303 **Lab ID: 60229206003** Collected: 10/03/16 10:00 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**26100**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 13:53	7440-42-8	
Calcium	**87.8**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 13:53	7440-70-2	
Lithium	**30.3**	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 13:53	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.090J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 20:27	7440-36-0	B
Arsenic	**33.0**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:27	7440-38-2	
Barium	**237**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 20:27	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 20:27	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 20:27	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 20:27	7440-47-3	
Cobalt	**0.64J**	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:27	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 20:27	7439-92-1	
Molybdenum	**34.2**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:27	7439-98-7	
Selenium	**0.22J**	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 20:27	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:27	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 11:46	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**447**	mg/L	5.0	5.0	1		10/06/16 10:04		
9040 pH	Analytical Method: EPA 9040								
pH	**7.3**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**16.1**	mg/L	1.0	0.50	1		10/14/16 19:28	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	0.027	1		10/14/16 19:28	16984-48-8	
Sulfate	**6.6**	mg/L	1.0	0.15	1		10/14/16 19:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-304 **Lab ID: 60229206004** Collected: 10/03/16 09:15 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4910**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 13:59	7440-42-8	
Calcium	**155**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 13:59	7440-70-2	
Lithium	**61.0**	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 13:59	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.51J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 20:32	7440-36-0	B
Arsenic	**58.9**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:32	7440-38-2	
Barium	**130**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 20:32	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 20:32	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 20:32	7440-43-9	
Chromium	**0.42J**	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 20:32	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:32	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 20:32	7439-92-1	
Molybdenum	**131**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:32	7439-98-7	
Selenium	**0.24J**	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 20:32	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:32	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 11:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**721**	mg/L	5.0	5.0	1		10/06/16 10:04		
9040 pH	Analytical Method: EPA 9040								
pH	**8.8**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**30.7**	mg/L	2.0	1.0	2		10/15/16 15:46	16887-00-6	
Fluoride	**0.072J**	mg/L	0.20	0.027	1		10/14/16 19:44	16984-48-8	
Sulfate	**431**	mg/L	50.0	7.7	50		10/15/16 16:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-305 **Lab ID: 60229206005** Collected: 10/03/16 16:45 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**1730**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 14:02	7440-42-8	
Calcium	**93.1**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 14:02	7440-70-2	
Lithium	**25.2**	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 14:02	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.082J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 20:36	7440-36-0	B
Arsenic	**0.61J**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:36	7440-38-2	
Barium	**190**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 20:36	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 20:36	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 20:36	7440-43-9	
Chromium	**0.76J**	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 20:36	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:36	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 20:36	7439-92-1	
Molybdenum	**1.2**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:36	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 20:36	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 11:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**467**	mg/L	5.0	5.0	1		10/06/16 10:04		
9040 pH	Analytical Method: EPA 9040								
pH	**7.4**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**32.3**	mg/L	5.0	2.5	5		10/15/16 16:14	16887-00-6	
Fluoride	**0.43**	mg/L	0.20	0.027	1		10/14/16 20:01	16984-48-8	
Sulfate	**38.1**	mg/L	5.0	0.77	5		10/15/16 16:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-306 **Lab ID: 60229206006** Collected: 10/03/16 17:35 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3340**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 14:04	7440-42-8	
Calcium	**40.8**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 14:04	7440-70-2	
Lithium	**35.9**	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 14:04	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.2**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 20:49	7440-36-0	
Arsenic	**46.4**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:49	7440-38-2	
Barium	**15.5**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 20:49	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 20:49	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 20:49	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 20:49	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:49	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 20:49	7439-92-1	
Molybdenum	**83.7**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:49	7439-98-7	
Selenium	**0.46J**	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 20:49	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:49	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 11:53	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**333**	mg/L	5.0	5.0	1		10/06/16 10:05		
9040 pH	Analytical Method: EPA 9040								
pH	**6.8**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.1**	mg/L	2.0	1.0	2		10/15/16 16:29	16887-00-6	
Fluoride	**0.075J**	mg/L	0.20	0.027	1		10/14/16 20:17	16984-48-8	
Sulfate	**137**	mg/L	10.0	1.5	10		10/15/16 16:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-307 **Lab ID: 60229206007** Collected: 10/03/16 18:05 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3880**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 14:06	7440-42-8	
Calcium	**34.1**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 14:06	7440-70-2	
Lithium	**45.1**	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 14:06	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.64J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 20:53	7440-36-0	B
Arsenic	**59.2**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:53	7440-38-2	
Barium	**38.4**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 20:53	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 20:53	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 20:53	7440-43-9	
Chromium	**0.62J**	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 20:53	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:53	7440-48-4	
Lead	**0.36J**	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 20:53	7439-92-1	
Molybdenum	**150**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:53	7439-98-7	
Selenium	**0.45J**	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 20:53	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 11:55	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**374**	mg/L	5.0	5.0	1		10/06/16 10:05		
9040 pH	Analytical Method: EPA 9040								
pH	**10.1**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.6**	mg/L	2.0	1.0	2		10/15/16 16:57	16887-00-6	
Fluoride	**0.079J**	mg/L	0.20	0.027	1		10/14/16 20:34	16984-48-8	
Sulfate	**161**	mg/L	10.0	1.5	10		10/15/16 17:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-308 **Lab ID: 60229206008** Collected: 10/03/16 13:05 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4760**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 14:09	7440-42-8	
Calcium	**33.5**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 14:09	7440-70-2	
Lithium	**41.2**	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 14:09	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.38J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 20:58	7440-36-0	B
Arsenic	**82.6**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:58	7440-38-2	
Barium	**89.8**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 20:58	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 20:58	7440-41-7	
Cadmium	**0.097J**	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 20:58	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 20:58	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:58	7440-48-4	
Lead	**0.28J**	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 20:58	7439-92-1	
Molybdenum	**138**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 20:58	7439-98-7	
Selenium	**0.45J**	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 20:58	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 20:58	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 12:02	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**495**	mg/L	5.0	5.0	1		10/06/16 10:06		
9040 pH	Analytical Method: EPA 9040								
pH	**9.7**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**47.8**	mg/L	5.0	2.5	5		10/15/16 17:54	16887-00-6	
Fluoride	**0.13J**	mg/L	0.20	0.027	1		10/14/16 21:23	16984-48-8	
Sulfate	**194**	mg/L	20.0	3.1	20		10/15/16 18:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-309 **Lab ID: 60229206009** Collected: 10/03/16 13:50 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5140**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 14:11	7440-42-8	
Calcium	**126**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 14:11	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 14:11	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.090J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 21:02	7440-36-0	B
Arsenic	**31.5**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 21:02	7440-38-2	
Barium	**364**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 21:02	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 21:02	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 21:02	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 21:02	7440-47-3	
Cobalt	**1.1**	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 21:02	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 21:02	7439-92-1	
Molybdenum	**49.1**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 21:02	7439-98-7	
Selenium	**0.31J**	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 21:02	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 21:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 12:04	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**772**	mg/L	5.0	5.0	1		10/06/16 10:06		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**117**	mg/L	10.0	5.0	10		10/15/16 18:22	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	0.027	1		10/14/16 21:39	16984-48-8	
Sulfate	**104**	mg/L	10.0	1.5	10		10/15/16 18:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-310 **Lab ID: 60229206010** Collected: 10/03/16 14:35 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**400**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 14:13	7440-42-8	
Calcium	**167**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 14:13	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 14:13	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.099J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 21:06	7440-36-0	B
Arsenic	**74.0**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 21:06	7440-38-2	
Barium	**734**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 21:06	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 21:06	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 21:06	7440-43-9	
Chromium	**0.50J**	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 21:06	7440-47-3	
Cobalt	**2.0**	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 21:06	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 21:06	7439-92-1	
Molybdenum	**4.8**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 21:06	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 21:06	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 21:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 12:06	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**743**	mg/L	5.0	5.0	1		10/06/16 10:07		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**143**	mg/L	10.0	5.0	10		10/15/16 18:51	16887-00-6	
Fluoride	**0.34**	mg/L	0.20	0.027	1		10/14/16 21:56	16984-48-8	
Sulfate	**62.6**	mg/L	5.0	0.77	5		10/15/16 18:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: MW-311 **Lab ID: 60229206011** Collected: 10/03/16 15:30 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2950**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 14:15	7440-42-8	
Calcium	**150**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 14:15	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 14:15	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.084J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 21:11	7440-36-0	B
Arsenic	**13.0**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 21:11	7440-38-2	
Barium	**229**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 21:11	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 21:11	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 21:11	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 21:11	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 21:11	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 21:11	7439-92-1	
Molybdenum	**14.7**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 21:11	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 21:11	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 21:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 12:08	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**694**	mg/L	5.0	5.0	1		10/06/16 10:08		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**62.7**	mg/L	5.0	2.5	5		10/15/16 19:05	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.027	1		10/14/16 22:12	16984-48-8	
Sulfate	**161**	mg/L	20.0	3.1	20		10/15/16 19:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066
Pace Project No.: 60229206

Sample: FIELD BLANK **Lab ID: 60229206012** Collected: 10/03/16 17:10 Received: 10/05/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2930**	ug/L	100	50.0	1	10/06/16 10:15	10/07/16 14:18	7440-42-8	
Calcium	**150**	mg/L	0.10	0.0081	1	10/06/16 10:15	10/07/16 14:18	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	10/06/16 10:15	10/07/16 14:18	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.090J**	ug/L	1.0	0.058	1	10/06/16 10:15	10/12/16 21:19	7440-36-0	B
Arsenic	**12.7**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 21:19	7440-38-2	
Barium	**226**	ug/L	1.0	0.14	1	10/06/16 10:15	10/12/16 21:19	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	10/06/16 10:15	10/12/16 21:19	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	10/06/16 10:15	10/12/16 21:19	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	10/06/16 10:15	10/12/16 21:19	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 21:19	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	10/06/16 10:15	10/12/16 21:19	7439-92-1	
Molybdenum	**14.3**	ug/L	1.0	0.10	1	10/06/16 10:15	10/12/16 21:19	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	10/06/16 10:15	10/12/16 21:19	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	10/06/16 10:15	10/12/16 21:19	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.039	1	10/07/16 08:45	10/07/16 12:10	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**9.5**	mg/L	5.0	5.0	1		10/06/16 10:08		
9040 pH	Analytical Method: EPA 9040								
pH	**6.0**	Std. Units	0.10	0.10	1		10/11/16 09:45		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	ND	mg/L	1.0	0.50	1		10/14/16 22:28	16887-00-6	
Fluoride	ND	mg/L	0.20	0.027	1		10/14/16 22:28	16984-48-8	
Sulfate	ND	mg/L	1.0	0.15	1		10/14/16 22:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066
Pace Project No.: 60229206

QC Batch: 449546 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

METHOD BLANK: 1839546 Matrix: Water
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.039	10/07/16 11:35	

LABORATORY CONTROL SAMPLE: 1839547

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1839548 1839549

Parameter	Units	60229367004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	1.4	1.4	27	27	75-125	1	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066
Pace Project No.: 60229206

QC Batch: 449387 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

METHOD BLANK: 1838889 Matrix: Water
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	50.0	10/07/16 13:33	
Calcium	mg/L	0.0092J	0.10	0.0081	10/07/16 13:33	
Lithium	ug/L	ND	10.0	4.9	10/07/16 13:33	

LABORATORY CONTROL SAMPLE: 1838890

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	992	99	80-120	
Calcium	mg/L	10	10.7	107	80-120	
Lithium	ug/L	1000	984	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1838891 1838892

Parameter	Units	60229205001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	ND	1000	1000	1060	1070	102	103	75-125	1	20	
Calcium	mg/L	241	10	10	253	257	120	165	75-125	2	20	M1
Lithium	ug/L	ND	1000	1000	1020	1030	102	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066
Pace Project No.: 60229206

QC Batch: 449389 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

METHOD BLANK: 1838897 Matrix: Water
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	0.071J	1.0	0.058	10/12/16 19:44	
Arsenic	ug/L	ND	1.0	0.10	10/12/16 19:44	
Barium	ug/L	0.22J	1.0	0.14	10/12/16 19:44	
Beryllium	ug/L	ND	0.50	0.080	10/12/16 19:44	
Cadmium	ug/L	ND	0.50	0.029	10/12/16 19:44	
Chromium	ug/L	ND	1.0	0.34	10/12/16 19:44	
Cobalt	ug/L	ND	1.0	0.50	10/12/16 19:44	
Lead	ug/L	ND	1.0	0.19	10/12/16 19:44	
Molybdenum	ug/L	ND	1.0	0.10	10/12/16 19:44	
Selenium	ug/L	ND	1.0	0.18	10/12/16 19:44	
Thallium	ug/L	ND	1.0	0.50	10/12/16 19:44	

LABORATORY CONTROL SAMPLE: 1838898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.2	101	80-120	
Arsenic	ug/L	40	40.9	102	80-120	
Barium	ug/L	40	40.0	100	80-120	
Beryllium	ug/L	40	44.6	111	80-120	
Cadmium	ug/L	40	40.4	101	80-120	
Chromium	ug/L	40	41.0	103	80-120	
Cobalt	ug/L	40	41.0	102	80-120	
Lead	ug/L	40	39.8	100	80-120	
Molybdenum	ug/L	40	42.2	105	80-120	
Selenium	ug/L	40	40.1	100	80-120	
Thallium	ug/L	40	38.3	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1838899 1838901

Parameter	Units	60229206002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.096J	40	40	41.1	40.5	103	101	75-125	2	20	
Arsenic	ug/L	73.5	40	40	112	112	98	97	75-125	0	20	
Barium	ug/L	446	40	40	476	472	74	64	75-125	1	20	M1
Beryllium	ug/L	ND	40	40	38.8	36.1	97	90	75-125	7	20	
Cadmium	ug/L	ND	40	40	38.8	37.9	97	95	75-125	2	20	
Chromium	ug/L	ND	40	40	40.0	40.2	100	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066
Pace Project No.: 60229206

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1838899 1838901

Parameter	Units	60229206002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	ND	40	40	40.0	39.3	99	97	75-125	2	20	
Lead	ug/L	ND	40	40	37.9	37.1	95	93	75-125	2	20	
Molybdenum	ug/L	105	40	40	146	145	101	99	75-125	1	20	
Selenium	ug/L	0.20J	40	40	38.5	39.6	96	98	75-125	3	20	
Thallium	ug/L	ND	40	40	37.2	36.4	93	91	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066
Pace Project No.: 60229206

QC Batch: 449379 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

METHOD BLANK: 1838849 Matrix: Water
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	10/06/16 10:01	

LABORATORY CONTROL SAMPLE: 1838850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1030	103	80-120	

SAMPLE DUPLICATE: 1838851

Parameter	Units	60229206001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	729	738	1	10	

SAMPLE DUPLICATE: 1838852

Parameter	Units	60229206010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	743	719	3	10	

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QUALITY CONTROL DATA

Project: Burlington/25216066
Pace Project No.: 60229206

QC Batch: 449955 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

SAMPLE DUPLICATE: 1841211

Parameter	Units	60229206004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	8.8	8.8	0	10	H6

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QUALITY CONTROL DATA

Project: Burlington/25216066
Pace Project No.: 60229206

QC Batch: 450600 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

METHOD BLANK: 1843923 Matrix: Water
Associated Lab Samples: 60229206001, 60229206002, 60229206003, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011, 60229206012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	10/14/16 17:00	
Fluoride	mg/L	ND	0.20	0.027	10/14/16 17:00	
Sulfate	mg/L	ND	1.0	0.15	10/14/16 17:00	

LABORATORY CONTROL SAMPLE: 1843924

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	80-120	
Fluoride	mg/L	2.5	2.5	100	80-120	
Sulfate	mg/L	5	4.8	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1843925 1843926

Parameter	Units	60229206001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.30	2.5	2.5	3.0	3.1	109	111	80-120	1	15	

SAMPLE DUPLICATE: 1843927

Parameter	Units	60229206002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	15.4	15.4	0	15	
Fluoride	mg/L	0.086J	0.071J		15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066
Pace Project No.: 60229206

QC Batch: 450674 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60229206001, 60229206002, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011

METHOD BLANK: 1844248 Matrix: Water
Associated Lab Samples: 60229206001, 60229206002, 60229206004, 60229206005, 60229206006, 60229206007, 60229206008, 60229206009, 60229206010, 60229206011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	10/15/16 12:57	
Sulfate	mg/L	ND	1.0	0.15	10/15/16 12:57	

LABORATORY CONTROL SAMPLE: 1844249

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	91	80-120	
Sulfate	mg/L	5	4.8	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1844250 1844251

Parameter	Units	60229206001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.6	10	10	33.2	33.0	116	114	80-120	1	15	
Sulfate	mg/L	378	250	250	651	649	110	109	80-120	0	15	

SAMPLE DUPLICATE: 1844252

Parameter	Units	60229206002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	579	565	2	15	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Burlington/25216066
Pace Project No.: 60229206

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.

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.

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

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066
Pace Project No.: 60229206

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60229206001	**MW-301**	EPA 3010	449387	EPA 6010	449437
60229206002	**MW-302**	EPA 3010	449387	EPA 6010	449437
60229206003	**MW-303**	EPA 3010	449387	EPA 6010	449437
60229206004	**MW-304**	EPA 3010	449387	EPA 6010	449437
60229206005	**MW-305**	EPA 3010	449387	EPA 6010	449437
60229206006	**MW-306**	EPA 3010	449387	EPA 6010	449437
60229206007	**MW-307**	EPA 3010	449387	EPA 6010	449437
60229206008	**MW-308**	EPA 3010	449387	EPA 6010	449437
60229206009	**MW-309**	EPA 3010	449387	EPA 6010	449437
60229206010	**MW-310**	EPA 3010	449387	EPA 6010	449437
60229206011	**MW-311**	EPA 3010	449387	EPA 6010	449437
60229206012	**FIELD BLANK**	EPA 3010	449387	EPA 6010	449437
60229206001	**MW-301**	EPA 3010	449389	EPA 6020	449438
60229206002	**MW-302**	EPA 3010	449389	EPA 6020	449438
60229206003	**MW-303**	EPA 3010	449389	EPA 6020	449438
60229206004	**MW-304**	EPA 3010	449389	EPA 6020	449438
60229206005	**MW-305**	EPA 3010	449389	EPA 6020	449438
60229206006	**MW-306**	EPA 3010	449389	EPA 6020	449438
60229206007	**MW-307**	EPA 3010	449389	EPA 6020	449438
60229206008	**MW-308**	EPA 3010	449389	EPA 6020	449438
60229206009	**MW-309**	EPA 3010	449389	EPA 6020	449438
60229206010	**MW-310**	EPA 3010	449389	EPA 6020	449438
60229206011	**MW-311**	EPA 3010	449389	EPA 6020	449438
60229206012	**FIELD BLANK**	EPA 3010	449389	EPA 6020	449438
60229206001	**MW-301**	EPA 7470	449546	EPA 7470	449579
60229206002	**MW-302**	EPA 7470	449546	EPA 7470	449579
60229206003	**MW-303**	EPA 7470	449546	EPA 7470	449579
60229206004	**MW-304**	EPA 7470	449546	EPA 7470	449579
60229206005	**MW-305**	EPA 7470	449546	EPA 7470	449579
60229206006	**MW-306**	EPA 7470	449546	EPA 7470	449579
60229206007	**MW-307**	EPA 7470	449546	EPA 7470	449579
60229206008	**MW-308**	EPA 7470	449546	EPA 7470	449579
60229206009	**MW-309**	EPA 7470	449546	EPA 7470	449579
60229206010	**MW-310**	EPA 7470	449546	EPA 7470	449579
60229206011	**MW-311**	EPA 7470	449546	EPA 7470	449579
60229206012	**FIELD BLANK**	EPA 7470	449546	EPA 7470	449579
60229206001	**MW-301**	SM 2540C	449379		
60229206002	**MW-302**	SM 2540C	449379		
60229206003	**MW-303**	SM 2540C	449379		
60229206004	**MW-304**	SM 2540C	449379		
60229206005	**MW-305**	SM 2540C	449379		
60229206006	**MW-306**	SM 2540C	449379		
60229206007	**MW-307**	SM 2540C	449379		
60229206008	**MW-308**	SM 2540C	449379		
60229206009	**MW-309**	SM 2540C	449379		
60229206010	**MW-310**	SM 2540C	449379		
60229206011	**MW-311**	SM 2540C	449379		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066
Pace Project No.: 60229206

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60229206012	FIELD BLANK	SM 2540C	449379		
60229206001	MW-301	EPA 9040	449955		
60229206002	MW-302	EPA 9040	449955		
60229206003	MW-303	EPA 9040	449955		
60229206004	MW-304	EPA 9040	449955		
60229206005	MW-305	EPA 9040	449955		
60229206006	MW-306	EPA 9040	449955		
60229206007	MW-307	EPA 9040	449955		
60229206008	MW-308	EPA 9040	449955		
60229206009	MW-309	EPA 9040	449955		
60229206010	MW-310	EPA 9040	449955		
60229206011	MW-311	EPA 9040	449955		
60229206012	FIELD BLANK	EPA 9040	449955		
60229206001	MW-301	EPA 9056	450600		
60229206001	MW-301	EPA 9056	450674		
60229206002	MW-302	EPA 9056	450600		
60229206002	MW-302	EPA 9056	450674		
60229206003	MW-303	EPA 9056	450600		
60229206004	MW-304	EPA 9056	450600		
60229206004	MW-304	EPA 9056	450674		
60229206005	MW-305	EPA 9056	450600		
60229206005	MW-305	EPA 9056	450674		
60229206006	MW-306	EPA 9056	450600		
60229206006	MW-306	EPA 9056	450674		
60229206007	MW-307	EPA 9056	450600		
60229206007	MW-307	EPA 9056	450674		
60229206008	MW-308	EPA 9056	450600		
60229206008	MW-308	EPA 9056	450674		
60229206009	MW-309	EPA 9056	450600		
60229206009	MW-309	EPA 9056	450674		
60229206010	MW-310	EPA 9056	450600		
60229206010	MW-310	EPA 9056	450674		
60229206011	MW-311	EPA 9056	450600		
60229206011	MW-311	EPA 9056	450674		
60229206012	FIELD BLANK	EPA 9056	450600		

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Sample Condition Upon Receipt

WO# : 60229206

60229206

Client Name: SCS Eng.

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7842 6032 3440, 6036 0110 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: CF +1.1 / CF -0.1 T-266 / T-239 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 0.9 2.5 **Corr. Factor** CF +1.1 / CF -0.1 **Corrected** 2.0 3.6

Date and initials of person examining contents: JB 10/5

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	pH
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	
Cyanide water sample checks: ☒ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: _____ Date: 10-5-16

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	SCS Engineers	Report To:	Meghan Blodgett	Attention:	Meghan Blodgett/Jess Valcheff
Address:	2830 Dairy Drive	Copy To:	Tom Karwaski	Company Name:	SCS Engineers
	Madison WI 53718			Address:	
Email To:	mblodgett@scsengineers.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	608-216-7362 Fax:	Project Name:	Burlington	Pace Project Manager:	Trudy Gipson 913-563-1405
Requested Due Date/TAT:		Project Number:	25216066	Pace Profile #:	6696 Line 2

REGULATORY AGENCY

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

Site Location STATE: IA

Requested Analysis Filtered (Y/N)

ITEM #	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)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	6010 Total Metals: B-Ca-Li	6020 Total Metals *	7470 Total Hg	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
											N	N	N														60229706
1	MW-301		WT	G	xxx	xxx	10/3/16	1215		2	1		1							X	X	X	X	X	X		BP2N BP2N[2.5] 01
2	MW-302		WT	G	xxx	xxx		1100		2	1		1							X	X	X	X	X	X		02
3	MW-303		WT	G	xxx	xxx		1000		2	1		1							X	X	X	X	X	X		03
4	MW-304		WT	G	xxx	xxx		0915		2	1		1							X	X	X	X	X	X		04
5	MW-305		WT	G	xxx	xxx		1645		2	1		1							X	X	X	X	X	X		05
6	MW-306		WT	G	xxx	xxx		1735		2	1		1							X	X	X	X	X	X		06
7	MW-307		WT	G	xxx	xxx		1805		2	1		1							X	X	X	X	X	X		07
8	MW-308		WT	G	xxx	xxx		1305		2	1		1							X	X	X	X	X	X		08
9	MW-309		WT	G	xxx	xxx		1350		2	1		1							X	X	X	X	X	X		09
10	MW-310		WT	G	xxx	xxx		1435		2	1		1							X	X	X	X	X	X		010
11	MW-311		WT	G	xxx	xxx		1530		2	1		1							X	X	X	X	X	X		10/6 (2)BP2N[2.5] 011
12	FIELD BLANK		WT	G	xxx	xxx		1710		2	1		1							X	X	X	X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219		~~10/3/16~~	~~1215~~		10/5	0855	2.0	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl		10/4/16	1245				3.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): ~~10/3/16~~ 10/4/16

*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

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

October 27, 2016

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066
Pace Project No.: 60229215

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2016. 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

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CERTIFICATIONS

Project: Burlington/25216066
Pace Project No.: 60229215

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Burlington/25216066
Pace Project No.: 60229215

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60229215001	**MW-301**	Water	10/03/16 12:15	10/05/16 08:55
60229215002	**MW-302**	Water	10/03/16 11:00	10/05/16 08:55
60229215003	**MW-303**	Water	10/03/16 10:00	10/05/16 08:55
60229215004	**MW-304**	Water	10/03/16 09:15	10/05/16 08:55
60229215005	**MW-305**	Water	10/03/16 16:45	10/05/16 08:55
60229215006	**MW-306**	Water	10/03/16 17:35	10/05/16 08:55
60229215007	**MW-307**	Water	10/03/16 18:05	10/05/16 08:55
60229215008	**MW-308**	Water	10/03/16 13:05	10/05/16 08:55
60229215009	**MW-309**	Water	10/03/16 13:50	10/05/16 08:55
60229215010	**MW-310**	Water	10/03/16 14:35	10/05/16 08:55
60229215011	**MW-311**	Water	10/03/16 15:30	10/05/16 08:55
60229215012	**FIELD BLANK**	Water	10/03/16 17:10	10/05/16 08:55

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066
Pace Project No.: 60229215

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60229215001	MW-301	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215002	MW-302	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215003	MW-303	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215004	MW-304	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215005	MW-305	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215006	MW-306	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215007	MW-307	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215008	MW-308	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215009	MW-309	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215010	MW-310	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215011	MW-311	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60229215012	FIELD BLANK	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-301 **Lab ID: 60229215001** Collected: 10/03/16 12:15 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.276 (0.445) C:NA T:93%**	pCi/L	10/27/16 13:10	13982-63-3	
Radium-228	EPA 904.0	**0.643 ± 0.479 (0.941) C:66% T:82%**	pCi/L	10/26/16 14:56	15262-20-1	
Total Radium	Total Radium Calculation	**0.643 ± 0.755 (1.39)**	pCi/L	10/27/16 16:41	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-302 **Lab ID: 60229215002** Collected: 10/03/16 11:00 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.803 ± 0.478 (0.455) C:NA T:93%**	pCi/L	10/27/16 13:30	13982-63-3	
Radium-228	EPA 904.0	**0.439 ± 0.403 (0.822) C:66% T:85%**	pCi/L	10/26/16 14:56	15262-20-1	
Total Radium	Total Radium Calculation	**1.24 ± 0.881 (1.28)**	pCi/L	10/27/16 16:41	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-303 **Lab ID: 60229215003** Collected: 10/03/16 10:00 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.393 ± 0.408 (0.608) C:NA T:90%**	pCi/L	10/27/16 13:32	13982-63-3	
Radium-228	EPA 904.0	**0.0706 ± 0.369 (0.842) C:63% T:91%**	pCi/L	10/26/16 14:56	15262-20-1	
Total Radium	Total Radium Calculation	**0.464 ± 0.777 (1.45)**	pCi/L	10/27/16 16:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-304 **Lab ID: 60229215004** Collected: 10/03/16 09:15 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.458 ± 0.428 (0.607) C:NA T:89%**	pCi/L	10/27/16 13:05	13982-63-3	
Radium-228	EPA 904.0	**0.704 ± 0.477 (0.912) C:62% T:79%**	pCi/L	10/26/16 14:57	15262-20-1	
Total Radium	Total Radium Calculation	**1.16 ± 0.905 (1.52)**	pCi/L	10/27/16 16:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-305 **Lab ID: 60229215005** Collected: 10/03/16 16:45 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.430 ± 0.403 (0.571) C:NA T:95%**	pCi/L	10/27/16 13:30	13982-63-3	
Radium-228	EPA 904.0	**1.11 ± 0.471 (0.748) C:68% T:83%**	pCi/L	10/26/16 14:57	15262-20-1	
Total Radium	Total Radium Calculation	**1.54 ± 0.874 (1.32)**	pCi/L	10/27/16 16:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-306 **Lab ID: 60229215006** Collected: 10/03/16 17:35 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**-0.143 ± 0.397 (0.937) C:NA T:82%**	pCi/L	10/27/16 13:28	13982-63-3	
Radium-228	EPA 904.0	**0.0727 ± 0.451 (1.03) C:63% T:80%**	pCi/L	10/26/16 14:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.0727 ± 0.848 (1.97)**	pCi/L	10/27/16 16:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-307 **Lab ID: 60229215007** Collected: 10/03/16 18:05 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.197 ± 0.300 (0.178) C:NA T:90%**	pCi/L	10/27/16 13:32	13982-63-3	
Radium-228	EPA 904.0	**0.355 ± 0.418 (0.878) C:61% T:78%**	pCi/L	10/26/16 14:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.552 ± 0.718 (1.06)**	pCi/L	10/27/16 16:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-308 **Lab ID: 60229215008** Collected: 10/03/16 13:05 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.312 ± 0.326 (0.460) C:NA T:93%**	pCi/L	10/27/16 13:42	13982-63-3	
Radium-228	EPA 904.0	**0.237 ± 0.389 (0.846) C:66% T:80%**	pCi/L	10/26/16 14:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.549 ± 0.715 (1.31)**	pCi/L	10/27/16 16:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-309 **Lab ID: 60229215009** Collected: 10/03/16 13:50 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.694 ± 0.478 (0.511) C:NA T:86%**	pCi/L	10/27/16 13:43	13982-63-3	
Radium-228	EPA 904.0	**0.690 ± 0.419 (0.775) C:65% T:84%**	pCi/L	10/26/16 14:57	15262-20-1	
Total Radium	Total Radium Calculation	**1.38 ± 0.897 (1.29)**	pCi/L	10/27/16 16:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-310 **Lab ID: 60229215010** Collected: 10/03/16 14:35 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.796 ± 0.837 (1.33) C:NA T:87%**	pCi/L	10/26/16 10:08	13982-63-3	
Radium-228	EPA 904.0	**0.540 ± 0.394 (0.766) C:66% T:86%**	pCi/L	10/26/16 14:57	15262-20-1	
Total Radium	Total Radium Calculation	**1.34 ± 1.23 (2.10)**	pCi/L	10/27/16 16:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: MW-311 **Lab ID: 60229215011** Collected: 10/03/16 15:30 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.149 ± 0.463 (0.896) C:NA T:92%**	pCi/L	10/26/16 10:08	13982-63-3	
Radium-228	EPA 904.0	**0.0707 ± 0.386 (0.882) C:67% T:78%**	pCi/L	10/26/16 14:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.220 ± 0.849 (1.78)**	pCi/L	10/27/16 16:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

Sample: FIELD BLANK **Lab ID: 60229215012** Collected: 10/03/16 17:10 Received: 10/05/16 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.721 ± 0.653 (0.962) C:NA T:86%**	pCi/L	10/26/16 10:08	13982-63-3	
Radium-228	EPA 904.0	**0.0106 ± 0.306 (0.712) C:78% T:79%**	pCi/L	10/26/16 14:57	15262-20-1	
Total Radium	Total Radium Calculation	**0.732 ± 0.959 (1.67)**	pCi/L	10/27/16 16:46	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

QC Batch: 237298 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60229215001, 60229215002, 60229215003, 60229215004, 60229215005, 60229215006, 60229215007, 60229215008, 60229215009

METHOD BLANK: 1166219 Matrix: Water
Associated Lab Samples: 60229215001, 60229215002, 60229215003, 60229215004, 60229215005, 60229215006, 60229215007, 60229215008, 60229215009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.334 ± 0.308 (0.181) C:NA T:85%	pCi/L	10/27/16 12:22	

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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(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

QC Batch: 237300 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60229215010, 60229215011, 60229215012

METHOD BLANK: 1166220 Matrix: Water
Associated Lab Samples: 60229215010, 60229215011, 60229215012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.389 (0.872) C:NA T:85%	pCi/L	10/26/16 10:08	

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 - RADIOCHEMISTRY

Project: Burlington/25216066
Pace Project No.: 60229215

QC Batch: 237501 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60229215001, 60229215002, 60229215003, 60229215004, 60229215005, 60229215006, 60229215007, 60229215008, 60229215009, 60229215010, 60229215011, 60229215012

METHOD BLANK: 1167216 Matrix: Water
Associated Lab Samples: 60229215001, 60229215002, 60229215003, 60229215004, 60229215005, 60229215006, 60229215007, 60229215008, 60229215009, 60229215010, 60229215011, 60229215012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.136 ± 0.333 (0.741) C:68% T:89%	pCi/L	10/26/16 14:56	

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/25216066
Pace Project No.: 60229215

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.

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.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066
Pace Project No.: 60229215

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60229215001	**MW-301**	EPA 903.1	237298		
60229215002	**MW-302**	EPA 903.1	237298		
60229215003	**MW-303**	EPA 903.1	237298		
60229215004	**MW-304**	EPA 903.1	237298		
60229215005	**MW-305**	EPA 903.1	237298		
60229215006	**MW-306**	EPA 903.1	237298		
60229215007	**MW-307**	EPA 903.1	237298		
60229215008	**MW-308**	EPA 903.1	237298		
60229215009	**MW-309**	EPA 903.1	237298		
60229215010	**MW-310**	EPA 903.1	237300		
60229215011	**MW-311**	EPA 903.1	237300		
60229215012	**FIELD BLANK**	EPA 903.1	237300		
60229215001	**MW-301**	EPA 904.0	237501		
60229215002	**MW-302**	EPA 904.0	237501		
60229215003	**MW-303**	EPA 904.0	237501		
60229215004	**MW-304**	EPA 904.0	237501		
60229215005	**MW-305**	EPA 904.0	237501		
60229215006	**MW-306**	EPA 904.0	237501		
60229215007	**MW-307**	EPA 904.0	237501		
60229215008	**MW-308**	EPA 904.0	237501		
60229215009	**MW-309**	EPA 904.0	237501		
60229215010	**MW-310**	EPA 904.0	237501		
60229215011	**MW-311**	EPA 904.0	237501		
60229215012	**FIELD BLANK**	EPA 904.0	237501		
60229215001	**MW-301**	Total Radium Calculation	238284		
60229215002	**MW-302**	Total Radium Calculation	238284		
60229215003	**MW-303**	Total Radium Calculation	238286		
60229215004	**MW-304**	Total Radium Calculation	238286		
60229215005	**MW-305**	Total Radium Calculation	238286		
60229215006	**MW-306**	Total Radium Calculation	238286		
60229215007	**MW-307**	Total Radium Calculation	238286		
60229215008	**MW-308**	Total Radium Calculation	238286		
60229215009	**MW-309**	Total Radium Calculation	238286		
60229215010	**MW-310**	Total Radium Calculation	238286		
60229215011	**MW-311**	Total Radium Calculation	238286		
60229215012	**FIELD BLANK**	Total Radium Calculation	238286		

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Sample Condition Upon Receipt

WO# : 60229215

60229215

Client Name: SCS Eng.

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7842 6039 8710, 6028 2101 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: CF +1.1 / CF -0.1 T-266 / T-239 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.5 1.1 **Corr. Factor** CF +1.1 / CF -0.1 **Corrected** 2.6 2.2

Date and initials of person examining contents: JB 10/5

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	
Cyanide water sample checks: ☒ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: [signature] Date: 10-5-16

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

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

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

Requested Analysis Filtered (Y/N)

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

Pace Project No./ Lab I.D.: 60229215

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	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	903.1 Radium-226	904.0 Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-301	WT	G	xxx	xxx	10/3/16	1215		2			2							X	X	X		(2) 8P IN (?) 01
2	MW-302	WT	G	xxx	xxx	↓	1100		2			2							X	X	X		02
3	MW-303	WT	G	xxx	xxx		1000		2			2							X	X	X		03
4	MW-304	WT	G	xxx	xxx		0915		2			2							X	X	X		04
5	MW-305	WT	G	xxx	xxx		1645		2			2							X	X	X		05
6	MW-306	WT	G	xxx	xxx		1735		2			2							X	X	X		06
7	MW-307	WT	G	xxx	xxx		1805		2			2							X	X	X		07
8	MW-308	WT	G	xxx	xxx		1305		2			2							X	X	X		08
9	MW-309	WT	G	xxx	xxx		1350		2			2							X	X	X		09
10	MW-310	WT	G	xxx	xxx		1435		2			2							X	X	X		010
11	MW-311	WT	G	xxx	xxx		1530		2			2							X	X	X		011
12	FIELD BLANK	WT	G	xxx	xxx		1710		2			2							X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	[signature]	10/4/16	1245	[signature]	10/5	0855	2.6	Y	Y	Y
							2.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 10-4-16

*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

Chain of Custody

WO#:30198269

30198269

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Workorder: 60229215 **Workorder Name:** Burlington/25216066 **Owner Received Date:** 10/5/2016 **Results Requested By:** 10/27/2016

Report To	Subcontract To
Trudy Gipson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: 903.1 Radium-226	904.0 Radium-228	Total Radium										LAB USE ONLY
1	MW-301	PS	10/3/2016 12:15	60229215001	Water	2						X	X	X										001
2	MW-302	PS	10/3/2016 11:00	60229215002	Water	2						X	X	X										002
3	MW-303	PS	10/3/2016 10:00	60229215003	Water	2						X	X	X										003
4	MW-304	PS	10/3/2016 09:15	60229215004	Water	2						X	X	X										004
5	MW-305	PS	10/3/2016 16:45	60229215005	Water	2						X	X	X										005
6	MW-306	PS	10/3/2016 17:35	60229215006	Water	2						X	X	X										006
7	MW-307	PS	10/3/2016 18:05	60229215007	Water	2						X	X	X										007
8	MW-308	PS	10/3/2016 13:05	60229215008	Water	2						X	X	X										008
9	MW-309	PS	10/3/2016 13:50	60229215009	Water	2						X	X	X										009
10	MW-310	PS	10/3/2016 14:35	60229215010	Water	2						X	X	X										010
11	MW-311	PS	10/3/2016 15:30	60229215011	Water	2						X	X	X										011
12	FIELD BLANK	PS	10/3/2016 17:10	60229215012	Water	2						X	X	X										012

Transfers	Released By	Date/Time	Received	Date/Time
1	[signature]	10/5/14 1700	Kiran E. Hill	10-6-16 0950
2				
3				

Comments

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

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

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace, Kansas Project # 30198269

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

Tracking #: 7044 6054 5395

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

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: N/A °C Final Temp: N/A °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KH 10-6-16

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Filtered volume received for Dissolved tests			✓	12.
All containers needing preservation have been checked. All containers needing preservation are found to be in compliance with EPA recommendation.	✓ ✓			13. pH < 2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed KH Date/time of preservation; Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	14.
Trip Blank Present: Trip Blank Custody Seals Present			✓ ✓	15.
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: KH Date: 10-6-16

Client Notification/ Resolution:

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

Comments/ Resolution: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

A5 Round 5 Background Sampling, Analytical Laboratory Report

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

January 25, 2017

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.00
Pace Project No.: 60235886

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on January 12, 2017. 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

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CERTIFICATIONS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

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SAMPLE SUMMARY

Project: Burlington/25216066.00
Pace Project No.: 60235886

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60235886001	**MW-301**	Water	01/10/17 10:40	01/12/17 09:15
60235886002	**MW-302**	Water	01/10/17 09:45	01/12/17 09:15
60235886003	**MW-303**	Water	01/10/17 08:45	01/12/17 09:15
60235886004	**MW-304**	Water	01/09/17 18:00	01/12/17 09:15
60235886005	**MW-305**	Water	01/10/17 15:15	01/12/17 09:15
60235886006	**MW-306**	Water	01/10/17 16:30	01/12/17 09:15
60235886007	**MW-307**	Water	01/10/17 17:15	01/12/17 09:15
60235886008	**MW-308**	Water	01/10/17 12:35	01/12/17 09:15
60235886009	**MW-309**	Water	01/10/17 14:10	01/12/17 09:15
60235886010	**MW-310**	Water	01/09/17 16:40	01/12/17 09:15
60235886011	**MW-311**	Water	01/09/17 15:30	01/12/17 09:15
60235886012	**FIELD BLANK**	Water	01/10/17 15:30	01/12/17 09:15

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60235886

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60235886001	**MW-301**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886002	**MW-302**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886003	**MW-303**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886004	**MW-304**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886005	**MW-305**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886006	**MW-306**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886007	**MW-307**	EPA 6010	ZBM	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60235886

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886008	**MW-308**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886009	**MW-309**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886010	**MW-310**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886011	**MW-311**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K
60235886012	**FIELD BLANK**	EPA 6010	ZBM	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	AGO	1	PASI-K
		EPA 9056	OL	3	PASI-K

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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-301 **Lab ID: 60235886001** Collected: 01/10/17 10:40 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/10/17 10:40		
Field pH	**7.41**	Std. Units	0.10	0.050	1		01/10/17 10:40		
Field Temperature	**13.6**	deg C	0.50	0.25	1		01/10/17 10:40		
Field Specific Conductance	**1985**	umhos/cm	1.0	1.0	1		01/10/17 10:40		
Field Oxidation Potential	**-146.1**	mV			1		01/10/17 10:40		
Oxygen, Dissolved	**0.10**	mg/L			1		01/10/17 10:40	7782-44-7	
Turbidity	**0.90**	NTU	1.0	1.0	1		01/10/17 10:40		
Groundwater Elevation	**525.38**	feet			1		01/10/17 10:40		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**12000**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 15:58	7440-42-8	
Calcium	**140**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 15:58	7440-70-2	
Lithium	**20.1**	ug/L	10.0	4.9	1	01/17/17 10:00	01/19/17 09:53	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 16:50	7440-36-0	
Arsenic	**39.7**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 16:50	7440-38-2	
Barium	**343**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 16:50	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 16:50	7440-41-7	
Cadmium	**0.032J**	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 16:50	7440-43-9	
Chromium	**0.44J**	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 16:50	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 16:50	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 16:50	7439-92-1	
Molybdenum	**113**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 16:50	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 16:50	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 16:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 09:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**816**	mg/L	5.0	5.0	1		01/13/17 10:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.3**	mg/L	2.0	1.0	2		01/18/17 15:52	16887-00-6	
Fluoride	**0.37**	mg/L	0.20	0.027	1		01/17/17 13:52	16984-48-8	
Sulfate	**385**	mg/L	50.0	7.7	50		01/18/17 16:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-302 **Lab ID: 60235886002** Collected: 01/10/17 09:45 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/10/17 09:45		
Field pH	**8.22**	Std. Units	0.10	0.050	1		01/10/17 09:45		
Field Temperature	**13.7**	deg C	0.50	0.25	1		01/10/17 09:45		
Field Specific Conductance	**2167**	umhos/cm	1.0	1.0	1		01/10/17 09:45		
Field Oxidation Potential	**-182.6**	mV			1		01/10/17 09:45		
Oxygen, Dissolved	**0.21**	mg/L			1		01/10/17 09:45	7782-44-7	
Turbidity	**0.47**	NTU	1.0	1.0	1		01/10/17 09:45		
Groundwater Elevation	**525.50**	feet			1		01/10/17 09:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**9590**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:01	7440-42-8	
Calcium	**225**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:01	7440-70-2	
Lithium	**62.6**	ug/L	10.0	4.9	1	01/17/17 10:00	01/19/17 09:55	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 16:55	7440-36-0	
Arsenic	**64.9**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 16:55	7440-38-2	
Barium	**355**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 16:55	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 16:55	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 16:55	7440-43-9	
Chromium	**0.46J**	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 16:55	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 16:55	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 16:55	7439-92-1	
Molybdenum	**104**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 16:55	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 16:55	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 16:55	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 09:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**969**	mg/L	5.0	5.0	1		01/13/17 10:55		
9040 pH	Analytical Method: EPA 9040								
pH	**7.9**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.2**	mg/L	1.0	0.50	1		01/17/17 14:47	16887-00-6	
Fluoride	ND	mg/L	0.20	0.027	1		01/17/17 14:47	16984-48-8	
Sulfate	**536**	mg/L	50.0	7.7	50		01/18/17 16:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-303 **Lab ID: 60235886003** Collected: 01/10/17 08:45 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/10/17 08:45		
Field pH	**7.64**	Std. Units	0.10	0.050	1		01/10/17 08:45		
Field Temperature	**14.3**	deg C	0.50	0.25	1		01/10/17 08:45		
Field Specific Conductance	**1024**	umhos/cm	1.0	1.0	1		01/10/17 08:45		
Field Oxidation Potential	**-150.6**	mV			1		01/10/17 08:45		
Oxygen, Dissolved	**0.10**	mg/L			1		01/10/17 08:45	7782-44-7	
Turbidity	**3.85**	NTU	1.0	1.0	1		01/10/17 08:45		
Groundwater Elevation	**525.56**	feet			1		01/10/17 08:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**25400**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:03	7440-42-8	
Calcium	**71.2**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:03	7440-70-2	
Lithium	**48.8**	ug/L	10.0	4.9	1	01/17/17 10:00	01/19/17 09:58	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 16:59	7440-36-0	
Arsenic	**12.8**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 16:59	7440-38-2	
Barium	**267**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 16:59	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 16:59	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 16:59	7440-43-9	
Chromium	**0.78J**	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 16:59	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 16:59	7440-48-4	
Lead	**0.21J**	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 16:59	7439-92-1	
Molybdenum	**52.8**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 16:59	7439-98-7	
Selenium	**0.26J**	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 16:59	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 16:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 09:52	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**404**	mg/L	5.0	5.0	1		01/13/17 10:55		
9040 pH	Analytical Method: EPA 9040								
pH	**7.6**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**14.4**	mg/L	1.0	0.50	1		01/17/17 15:00	16887-00-6	
Fluoride	**0.18J**	mg/L	0.20	0.027	1		01/17/17 15:00	16984-48-8	
Sulfate	**34.1**	mg/L	2.0	0.31	2		01/18/17 17:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-304 **Lab ID: 60235886004** Collected: 01/09/17 18:00 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/09/17 18:00		
Field pH	**9.44**	Std. Units	0.10	0.050	1		01/09/17 18:00		
Field Temperature	**15.0**	deg C	0.50	0.25	1		01/09/17 18:00		
Field Specific Conductance	**1634**	umhos/cm	1.0	1.0	1		01/09/17 18:00		
Field Oxidation Potential	**-274.8**	mV			1		01/09/17 18:00		
Oxygen, Dissolved	**0.11**	mg/L			1		01/09/17 18:00	7782-44-7	
Turbidity	**0.00**	NTU	1.0	1.0	1		01/09/17 18:00		
Groundwater Elevation	**525.62**	feet			1		01/09/17 18:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5350**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:05	7440-42-8	
Calcium	**136**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:05	7440-70-2	
Lithium	**70.7**	ug/L	10.0	4.9	1	01/17/17 10:00	01/19/17 10:00	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.80J**	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 17:03	7440-36-0	
Arsenic	**68.7**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:03	7440-38-2	
Barium	**117**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 17:03	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 17:03	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 17:03	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 17:03	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:03	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 17:03	7439-92-1	
Molybdenum	**121**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:03	7439-98-7	
Selenium	**0.24J**	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 17:03	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 09:53	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**651**	mg/L	5.0	5.0	1		01/13/17 10:51		
9040 pH	Analytical Method: EPA 9040								
pH	**8.2**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**47.7**	mg/L	5.0	2.5	5		01/18/17 18:11	16887-00-6	
Fluoride	ND	mg/L	0.20	0.027	1		01/17/17 15:14	16984-48-8	
Sulfate	**330**	mg/L	50.0	7.7	50		01/18/17 18:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-305 **Lab ID: 60235886005** Collected: 01/10/17 15:15 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/10/17 15:15		
Field pH	**7.48**	Std. Units	0.10	0.050	1		01/10/17 15:15		
Field Temperature	**14.7**	deg C	0.50	0.25	1		01/10/17 15:15		
Field Specific Conductance	**1371**	umhos/cm	1.0	1.0	1		01/10/17 15:15		
Field Oxidation Potential	**-119.8**	mV			1		01/10/17 15:15		
Oxygen, Dissolved	**0.16**	mg/L			1		01/10/17 15:15	7782-44-7	
Turbidity	**0.46**	NTU	1.0	1.0	1		01/10/17 15:15		
Groundwater Elevation	**525.74**	feet			1		01/10/17 15:15		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**1910**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:07	7440-42-8	
Calcium	**88.8**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:07	7440-70-2	
Lithium	**28.5**	ug/L	10.0	4.9	1	01/17/17 10:00	01/19/17 10:02	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 17:16	7440-36-0	
Arsenic	**0.23J**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:16	7440-38-2	
Barium	**208**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 17:16	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 17:16	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 17:16	7440-43-9	
Chromium	**0.54J**	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 17:16	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:16	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 17:16	7439-92-1	
Molybdenum	**0.76J**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:16	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 17:16	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:16	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 09:54	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**455**	mg/L	5.0	5.0	1		01/13/17 10:56		
9040 pH	Analytical Method: EPA 9040								
pH	**7.8**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**34.8**	mg/L	2.0	1.0	2		01/18/17 18:42	16887-00-6	
Fluoride	**0.34**	mg/L	0.20	0.027	1		01/17/17 15:28	16984-48-8	
Sulfate	**19.2**	mg/L	2.0	0.31	2		01/18/17 18:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-306 **Lab ID: 60235886006** Collected: 01/10/17 16:30 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/10/17 16:30		
Field pH	**6.33**	Std. Units	0.10	0.050	1		01/10/17 16:30		
Field Temperature	**14.4**	deg C	0.50	0.25	1		01/10/17 16:30		
Field Specific Conductance	**864**	umhos/cm	1.0	1.0	1		01/10/17 16:30		
Field Oxidation Potential	**-26.7**	mV			1		01/10/17 16:30		
Oxygen, Dissolved	**0.06**	mg/L			1		01/10/17 16:30	7782-44-7	
Turbidity	**0.19**	NTU	1.0	1.0	1		01/10/17 16:30		
Groundwater Elevation	**525.67**	feet			1		01/10/17 16:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3630**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:10	7440-42-8	
Calcium	**37.5**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:10	7440-70-2	
Lithium	**44.1**	ug/L	10.0	4.9	1	01/17/17 10:00	01/19/17 10:05	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.3**	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 17:20	7440-36-0	
Arsenic	**53.4**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:20	7440-38-2	
Barium	**14.4**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 17:20	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 17:20	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 17:20	7440-43-9	
Chromium	**0.45J**	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 17:20	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:20	7440-48-4	
Lead	**0.19J**	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 17:20	7439-92-1	
Molybdenum	**88.9**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:20	7439-98-7	
Selenium	**0.55J**	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 17:20	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:20	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 09:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**307**	mg/L	5.0	5.0	1		01/13/17 10:56		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.6**	mg/L	2.0	1.0	2		01/18/17 18:57	16887-00-6	
Fluoride	**0.052J**	mg/L	0.20	0.027	1		01/17/17 15:41	16984-48-8	
Sulfate	**123**	mg/L	10.0	1.5	10		01/18/17 19:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-307 **Lab ID: 60235886007** Collected: 01/10/17 17:15 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/10/17 17:15		
Field pH	**10.82**	Std. Units	0.10	0.050	1		01/10/17 17:15		
Field Temperature	**14.4**	deg C	0.50	0.25	1		01/10/17 17:15		
Field Specific Conductance	**940**	umhos/cm	1.0	1.0	1		01/10/17 17:15		
Field Oxidation Potential	**-253.6**	mV			1		01/10/17 17:15		
Oxygen, Dissolved	**0.11**	mg/L			1		01/10/17 17:15	7782-44-7	
Turbidity	**0.60**	NTU	1.0	1.0	1		01/10/17 17:15		
Groundwater Elevation	**525.81**	feet			1		01/10/17 17:15		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3960**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:12	7440-42-8	
Calcium	**31.3**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:12	7440-70-2	
Lithium	**49.6**	ug/L	10.0	4.9	1	01/17/17 10:00	01/19/17 10:11	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.53J**	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 17:38	7440-36-0	
Arsenic	**59.2**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:38	7440-38-2	
Barium	**34.7**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 17:38	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 17:38	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 17:38	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 17:38	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:38	7440-48-4	
Lead	**0.45J**	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 17:38	7439-92-1	
Molybdenum	**154**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:38	7439-98-7	
Selenium	**0.44J**	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 17:38	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 10:00	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**355**	mg/L	5.0	5.0	1		01/13/17 10:57		
9040 pH	Analytical Method: EPA 9040								
pH	**9.6**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.3**	mg/L	2.0	1.0	2		01/18/17 19:28	16887-00-6	
Fluoride	**0.057J**	mg/L	0.20	0.027	1		01/17/17 15:55	16984-48-8	
Sulfate	**145**	mg/L	10.0	1.5	10		01/18/17 19:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-308 **Lab ID: 60235886008** Collected: 01/10/17 12:35 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/10/17 12:35		
Field pH	**10.21**	Std. Units	0.10	0.050	1		01/10/17 12:35		
Field Temperature	**13.7**	deg C	0.50	0.25	1		01/10/17 12:35		
Field Specific Conductance	**1303**	umhos/cm	1.0	1.0	1		01/10/17 12:35		
Field Oxidation Potential	**-163.8**	mV			1		01/10/17 12:35		
Oxygen, Dissolved	**0.11**	mg/L			1		01/10/17 12:35	7782-44-7	
Turbidity	**1.27**	NTU	1.0	1.0	1		01/10/17 12:35		
Groundwater Elevation	**525.65**	feet			1		01/10/17 12:35		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4980**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:14	7440-42-8	
Calcium	**33.2**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:14	7440-70-2	
Lithium	**47.0**	ug/L	10.0	4.9	1	01/17/17 10:00	01/19/17 10:14	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.33J**	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 17:42	7440-36-0	
Arsenic	**86.4**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:42	7440-38-2	
Barium	**90.6**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 17:42	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 17:42	7440-41-7	
Cadmium	**0.034J**	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 17:42	7440-43-9	
Chromium	**0.37J**	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 17:42	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:42	7440-48-4	
Lead	**0.27J**	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 17:42	7439-92-1	
Molybdenum	**140**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:42	7439-98-7	
Selenium	**0.68J**	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 17:42	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 10:02	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**474**	mg/L	5.0	5.0	1		01/13/17 10:57		
9040 pH	Analytical Method: EPA 9040								
pH	**9.4**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**43.5**	mg/L	5.0	2.5	5		01/18/17 19:59	16887-00-6	
Fluoride	**0.084J**	mg/L	0.20	0.027	1		01/17/17 16:09	16984-48-8	
Sulfate	**192**	mg/L	20.0	3.1	20		01/18/17 20:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-309 **Lab ID: 60235886009** Collected: 01/10/17 14:10 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/10/17 14:10		
Field pH	**7.37**	Std. Units	0.10	0.050	1		01/10/17 14:10		
Field Temperature	**14.3**	deg C	0.50	0.25	1		01/10/17 14:10		
Field Specific Conductance	**2502**	umhos/cm	1.0	1.0	1		01/10/17 14:10		
Field Oxidation Potential	**-131.4**	mV			1		01/10/17 14:10		
Oxygen, Dissolved	**0.11**	mg/L			1		01/10/17 14:10	7782-44-7	
Turbidity	**5.84**	NTU	1.0	1.0	1		01/10/17 14:10		
Groundwater Elevation	**525.57**	feet			1		01/10/17 14:10		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4880**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:21	7440-42-8	
Calcium	**141**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:21	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	01/17/17 10:00	01/18/17 16:21	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 17:46	7440-36-0	
Arsenic	**34.5**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:46	7440-38-2	
Barium	**362**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 17:46	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 17:46	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 17:46	7440-43-9	
Chromium	**0.40J**	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 17:46	7440-47-3	
Cobalt	**1.7**	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:46	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 17:46	7439-92-1	
Molybdenum	**44.8**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:46	7439-98-7	
Selenium	**0.25J**	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 17:46	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:46	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 10:03	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**839**	mg/L	5.0	5.0	1		01/13/17 10:58		
9040 pH	Analytical Method: EPA 9040								
pH	**7.3**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**104**	mg/L	10.0	5.0	10		01/18/17 21:00	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	0.027	1		01/17/17 16:23	16984-48-8	
Sulfate	**127**	mg/L	10.0	1.5	10		01/18/17 21:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-310 **Lab ID: 60235886010** Collected: 01/09/17 16:40 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/09/17 16:40		
Field pH	**7.38**	Std. Units	0.10	0.050	1		01/09/17 16:40		
Field Temperature	**14.3**	deg C	0.50	0.25	1		01/09/17 16:40		
Field Specific Conductance	**2116**	umhos/cm	1.0	1.0	1		01/09/17 16:40		
Field Oxidation Potential	**-161.2**	mV			1		01/09/17 16:40		
Oxygen, Dissolved	**0.19**	mg/L			1		01/09/17 16:40	7782-44-7	
Turbidity	**4.64**	NTU	1.0	1.0	1		01/09/17 16:40		
Groundwater Elevation	**525.78**	feet			1		01/09/17 16:40		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**413**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:23	7440-42-8	
Calcium	**145**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:23	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	01/17/17 10:00	01/18/17 16:23	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 17:50	7440-36-0	
Arsenic	**72.6**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:50	7440-38-2	
Barium	**605**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 17:50	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 17:50	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 17:50	7440-43-9	
Chromium	**0.45J**	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 17:50	7440-47-3	
Cobalt	**1.6**	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:50	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 17:50	7439-92-1	
Molybdenum	**4.4**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:50	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 17:50	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 10:05	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**653**	mg/L	5.0	5.0	1		01/13/17 10:53		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**113**	mg/L	10.0	5.0	10		01/18/17 21:31	16887-00-6	
Fluoride	**0.33**	mg/L	0.20	0.027	1		01/17/17 16:36	16984-48-8	
Sulfate	**48.5**	mg/L	5.0	0.77	5		01/18/17 21:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: MW-311 **Lab ID: 60235886011** Collected: 01/09/17 15:30 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		01/09/17 15:30		
Field pH	**7.24**	Std. Units	0.10	0.050	1		01/09/17 15:30		
Field Temperature	**14.3**	deg C	0.50	0.25	1		01/09/17 15:30		
Field Specific Conductance	**2126**	umhos/cm	1.0	1.0	1		01/09/17 15:30		
Field Oxidation Potential	**-171.4**	mV			1		01/09/17 15:30		
Oxygen, Dissolved	**0.18**	mg/L			1		01/09/17 15:30	7782-44-7	
Turbidity	**1.16**	NTU	1.0	1.0	1		01/09/17 15:30		
Groundwater Elevation	**525.16**	feet			1		01/09/17 15:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2160**	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:26	7440-42-8	
Calcium	**164**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:26	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	01/17/17 10:00	01/18/17 16:26	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 17:55	7440-36-0	
Arsenic	**17.6**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:55	7440-38-2	
Barium	**244**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 17:55	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 17:55	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 17:55	7440-43-9	
Chromium	**0.35J**	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 17:55	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:55	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 17:55	7439-92-1	
Molybdenum	**10.9**	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:55	7439-98-7	
Selenium	**0.20J**	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 17:55	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:55	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 10:06	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**776**	mg/L	5.0	5.0	1		01/13/17 10:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.5**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**78.7**	mg/L	5.0	2.5	5		01/18/17 21:47	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.027	1		01/17/17 16:50	16984-48-8	
Sulfate	**179**	mg/L	20.0	3.1	20		01/18/17 22:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60235886

Sample: FIELD BLANK **Lab ID: 60235886012** Collected: 01/10/17 15:30 Received: 01/12/17 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	ND	ug/L	100	50.0	1	01/17/17 10:00	01/18/17 16:28	7440-42-8	
Calcium	**0.021J**	mg/L	0.10	0.0081	1	01/17/17 10:00	01/18/17 16:28	7440-70-2	
Lithium	ND	ug/L	10.0	4.9	1	01/17/17 10:00	01/18/17 16:28	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.058	1	01/17/17 10:00	01/18/17 17:33	7440-36-0	
Arsenic	ND	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:33	7440-38-2	
Barium	**0.17J**	ug/L	1.0	0.14	1	01/17/17 10:00	01/18/17 17:33	7440-39-3	
Beryllium	ND	ug/L	0.50	0.080	1	01/17/17 10:00	01/18/17 17:33	7440-41-7	
Cadmium	ND	ug/L	0.50	0.029	1	01/17/17 10:00	01/18/17 17:33	7440-43-9	
Chromium	ND	ug/L	1.0	0.34	1	01/17/17 10:00	01/18/17 17:33	7440-47-3	
Cobalt	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:33	7440-48-4	
Lead	ND	ug/L	1.0	0.19	1	01/17/17 10:00	01/18/17 17:33	7439-92-1	
Molybdenum	ND	ug/L	1.0	0.10	1	01/17/17 10:00	01/18/17 17:33	7439-98-7	
Selenium	ND	ug/L	1.0	0.18	1	01/17/17 10:00	01/18/17 17:33	7782-49-2	
Thallium	ND	ug/L	1.0	0.50	1	01/17/17 10:00	01/18/17 17:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.055	1	01/16/17 15:45	01/17/17 10:08	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	5.0	5.0	1		01/13/17 10:59		
9040 pH	Analytical Method: EPA 9040								
pH	**8.0**	Std. Units	0.10	0.10	1		01/24/17 16:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	ND	mg/L	1.0	0.50	1		01/17/17 17:31	16887-00-6	
Fluoride	ND	mg/L	0.20	0.027	1		01/17/17 17:31	16984-48-8	
Sulfate	ND	mg/L	1.0	0.15	1		01/17/17 17:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60235886

QC Batch: 462104 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

METHOD BLANK: 1892034 Matrix: Water
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.055	01/17/17 09:41	

LABORATORY CONTROL SAMPLE: 1892035

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1892036 1892037

Parameter	Units	60235959001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.20	5	5	4.5	4.6	88	90	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60235886

QC Batch: 462135 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

METHOD BLANK: 1892175 Matrix: Water
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	50.0	01/18/17 15:54	
Calcium	mg/L	ND	0.10	0.0081	01/18/17 15:54	
Lithium	ug/L	ND	10.0	4.9	01/19/17 09:44	

LABORATORY CONTROL SAMPLE: 1892176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	1040	104	80-120	
Calcium	mg/L	10	10.2	102	80-120	
Lithium	ug/L	1000	1140	114	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1892177 1892178

Parameter	Units	60236017001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	ND	1000	1000	1070	1040	103	100	75-125	2	20	
Calcium	mg/L	95.9	10	10	105	104	90	76	75-125	1	20	
Lithium	ug/L	ND	1000	1000	1140	1130	113	113	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60235886

QC Batch: 462137 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

METHOD BLANK: 1892180 Matrix: Water
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.058	01/18/17 16:42	
Arsenic	ug/L	ND	1.0	0.10	01/18/17 16:42	
Barium	ug/L	ND	1.0	0.14	01/18/17 16:42	
Beryllium	ug/L	ND	0.50	0.080	01/18/17 16:42	
Cadmium	ug/L	ND	0.50	0.029	01/18/17 16:42	
Chromium	ug/L	ND	1.0	0.34	01/18/17 16:42	
Cobalt	ug/L	ND	1.0	0.50	01/18/17 16:42	
Lead	ug/L	ND	1.0	0.19	01/18/17 16:42	
Molybdenum	ug/L	ND	1.0	0.10	01/18/17 16:42	
Selenium	ug/L	ND	1.0	0.18	01/18/17 16:42	
Thallium	ug/L	ND	1.0	0.50	01/18/17 16:42	

LABORATORY CONTROL SAMPLE: 1892181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.3	101	80-120	
Arsenic	ug/L	40	40.4	101	80-120	
Barium	ug/L	40	39.6	99	80-120	
Beryllium	ug/L	40	39.1	98	80-120	
Cadmium	ug/L	40	40.3	101	80-120	
Chromium	ug/L	40	40.8	102	80-120	
Cobalt	ug/L	40	40.0	100	80-120	
Lead	ug/L	40	39.0	97	80-120	
Molybdenum	ug/L	40	42.1	105	80-120	
Selenium	ug/L	40	39.0	97	80-120	
Thallium	ug/L	40	41.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1892182 1892183

Parameter	Units	60235886004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.80J	40	40	41.5	40.8	102	100	75-125	2	20	
Arsenic	ug/L	68.7	40	40	112	109	108	100	75-125	3	20	
Barium	ug/L	117	40	40	157	155	99	94	75-125	1	20	
Beryllium	ug/L	ND	40	40	32.0	31.7	80	79	75-125	1	20	
Cadmium	ug/L	ND	40	40	39.6	39.3	99	98	75-125	1	20	
Chromium	ug/L	ND	40	40	41.0	39.7	102	98	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60235886

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1892182 1892183

Parameter	Units	60235886004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	ND	40	40	39.7	38.7	99	97	75-125	2	20	
Lead	ug/L	ND	40	40	40.3	40.0	101	100	75-125	1	20	
Molybdenum	ug/L	121	40	40	166	162	112	101	75-125	3	20	
Selenium	ug/L	0.24J	40	40	35.4	35.8	88	89	75-125	1	20	
Thallium	ug/L	ND	40	40	42.2	42.3	106	106	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60235886

QC Batch: 461985 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

METHOD BLANK: 1891309 Matrix: Water
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	01/13/17 10:50	

LABORATORY CONTROL SAMPLE: 1891310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	977	98	80-120	

SAMPLE DUPLICATE: 1891311

Parameter	Units	60235886004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	651	671	3	10	

SAMPLE DUPLICATE: 1891312

Parameter	Units	60235886008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	474	479	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60235886

QC Batch: 462925 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

SAMPLE DUPLICATE: 1895386

Parameter	Units	60235886001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.2	7.2	0	10	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60235886

QC Batch: 462128 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

METHOD BLANK: 1892148 Matrix: Water
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011, 60235886012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	01/17/17 08:57	
Fluoride	mg/L	ND	0.20	0.027	01/17/17 08:57	
Sulfate	mg/L	ND	1.0	0.15	01/17/17 08:57	

LABORATORY CONTROL SAMPLE: 1892149

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	80-120	
Fluoride	mg/L	2.5	2.5	100	80-120	
Sulfate	mg/L	5	4.9	97	80-120	

SAMPLE DUPLICATE: 1892152

Parameter	Units	60235886001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.37	0.38	3	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60235886

QC Batch: 462411 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011

METHOD BLANK: 1893137 Matrix: Water
Associated Lab Samples: 60235886001, 60235886002, 60235886003, 60235886004, 60235886005, 60235886006, 60235886007, 60235886008, 60235886009, 60235886010, 60235886011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	01/18/17 14:51	
Sulfate	mg/L	ND	1.0	0.15	01/18/17 14:51	

LABORATORY CONTROL SAMPLE: 1893138

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	80-120	
Sulfate	mg/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1893139 1893140

Parameter	Units	60235886002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	536	250	250	803	805	107	108	80-120	0	15	

SAMPLE DUPLICATE: 1893141

Parameter	Units	60235886003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	34.1	34.2	0	15	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: Burlington/25216066.00
Pace Project No.: 60235886

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.

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.

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA required holding time.

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60235886

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60235886001	MW-301		462762		
60235886002	MW-302		462762		
60235886003	MW-303		462762		
60235886004	MW-304		462762		
60235886005	MW-305		462762		
60235886006	MW-306		462762		
60235886007	MW-307		462762		
60235886008	MW-308		462762		
60235886009	MW-309		462762		
60235886010	MW-310		462762		
60235886011	MW-311		462762		
60235886001	MW-301	EPA 3010	462135	EPA 6010	462175
60235886002	MW-302	EPA 3010	462135	EPA 6010	462175
60235886003	MW-303	EPA 3010	462135	EPA 6010	462175
60235886004	MW-304	EPA 3010	462135	EPA 6010	462175
60235886005	MW-305	EPA 3010	462135	EPA 6010	462175
60235886006	MW-306	EPA 3010	462135	EPA 6010	462175
60235886007	MW-307	EPA 3010	462135	EPA 6010	462175
60235886008	MW-308	EPA 3010	462135	EPA 6010	462175
60235886009	MW-309	EPA 3010	462135	EPA 6010	462175
60235886010	MW-310	EPA 3010	462135	EPA 6010	462175
60235886011	MW-311	EPA 3010	462135	EPA 6010	462175
60235886012	FIELD BLANK	EPA 3010	462135	EPA 6010	462175
60235886001	MW-301	EPA 3010	462137	EPA 6020	462177
60235886002	MW-302	EPA 3010	462137	EPA 6020	462177
60235886003	MW-303	EPA 3010	462137	EPA 6020	462177
60235886004	MW-304	EPA 3010	462137	EPA 6020	462177
60235886005	MW-305	EPA 3010	462137	EPA 6020	462177
60235886006	MW-306	EPA 3010	462137	EPA 6020	462177
60235886007	MW-307	EPA 3010	462137	EPA 6020	462177
60235886008	MW-308	EPA 3010	462137	EPA 6020	462177
60235886009	MW-309	EPA 3010	462137	EPA 6020	462177
60235886010	MW-310	EPA 3010	462137	EPA 6020	462177
60235886011	MW-311	EPA 3010	462137	EPA 6020	462177
60235886012	FIELD BLANK	EPA 3010	462137	EPA 6020	462177
60235886001	MW-301	EPA 7470	462104	EPA 7470	462108
60235886002	MW-302	EPA 7470	462104	EPA 7470	462108
60235886003	MW-303	EPA 7470	462104	EPA 7470	462108
60235886004	MW-304	EPA 7470	462104	EPA 7470	462108
60235886005	MW-305	EPA 7470	462104	EPA 7470	462108
60235886006	MW-306	EPA 7470	462104	EPA 7470	462108
60235886007	MW-307	EPA 7470	462104	EPA 7470	462108
60235886008	MW-308	EPA 7470	462104	EPA 7470	462108
60235886009	MW-309	EPA 7470	462104	EPA 7470	462108
60235886010	MW-310	EPA 7470	462104	EPA 7470	462108
60235886011	MW-311	EPA 7470	462104	EPA 7470	462108
60235886012	FIELD BLANK	EPA 7470	462104	EPA 7470	462108

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60235886

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60235886001	**MW-301**	SM 2540C	461985		
60235886002	**MW-302**	SM 2540C	461985		
60235886003	**MW-303**	SM 2540C	461985		
60235886004	**MW-304**	SM 2540C	461985		
60235886005	**MW-305**	SM 2540C	461985		
60235886006	**MW-306**	SM 2540C	461985		
60235886007	**MW-307**	SM 2540C	461985		
60235886008	**MW-308**	SM 2540C	461985		
60235886009	**MW-309**	SM 2540C	461985		
60235886010	**MW-310**	SM 2540C	461985		
60235886011	**MW-311**	SM 2540C	461985		
60235886012	**FIELD BLANK**	SM 2540C	461985		
60235886001	**MW-301**	EPA 9040	462925		
60235886002	**MW-302**	EPA 9040	462925		
60235886003	**MW-303**	EPA 9040	462925		
60235886004	**MW-304**	EPA 9040	462925		
60235886005	**MW-305**	EPA 9040	462925		
60235886006	**MW-306**	EPA 9040	462925		
60235886007	**MW-307**	EPA 9040	462925		
60235886008	**MW-308**	EPA 9040	462925		
60235886009	**MW-309**	EPA 9040	462925		
60235886010	**MW-310**	EPA 9040	462925		
60235886011	**MW-311**	EPA 9040	462925		
60235886012	**FIELD BLANK**	EPA 9040	462925		
60235886001	**MW-301**	EPA 9056	462128		
60235886001	**MW-301**	EPA 9056	462411		
60235886002	**MW-302**	EPA 9056	462128		
60235886002	**MW-302**	EPA 9056	462411		
60235886003	**MW-303**	EPA 9056	462128		
60235886003	**MW-303**	EPA 9056	462411		
60235886004	**MW-304**	EPA 9056	462128		
60235886004	**MW-304**	EPA 9056	462411		
60235886005	**MW-305**	EPA 9056	462128		
60235886005	**MW-305**	EPA 9056	462411		
60235886006	**MW-306**	EPA 9056	462128		
60235886006	**MW-306**	EPA 9056	462411		
60235886007	**MW-307**	EPA 9056	462128		
60235886007	**MW-307**	EPA 9056	462411		
60235886008	**MW-308**	EPA 9056	462128		
60235886008	**MW-308**	EPA 9056	462411		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60235886

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60235886009	**MW-309**	EPA 9056	462128		
60235886009	**MW-309**	EPA 9056	462411		
60235886010	**MW-310**	EPA 9056	462128		
60235886010	**MW-310**	EPA 9056	462411		
60235886011	**MW-311**	EPA 9056	462128		
60235886011	**MW-311**	EPA 9056	462411		
60235886012	**FIELD BLANK**	EPA 9056	462128		

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Sample Condition Upon Receipt

WO# : 60235886

60235886

Client Name: SCS Eng.

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7852 8853 7150 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: (CF +0.7) T-266 / (CF -0.5) T-239 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 0.8 -0.5 **Corr. Factor** (CF +0.7) (CF +0.9) **Corrected** 0.2 1.5

Date and initials of person examining contents: 1/12/17

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	pH
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	
Cyanide water sample checks: ☑ N/A		
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):	☐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: _____

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

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: ~~25215473.10~~ 25216066.00

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

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 Total Metals: B-Ca-Li	6020 Total Metals *	7470 Total Hg	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																	Requested Analysis Filtered (Y/N)	N	N	N							60235886
1	MW-301	WT	G	xxx	xxx	1-10-17	1040		2	1		1						X	X	X	X	X	X			BRW	01
2	MW-302	WT	G	xxx	xxx	"	0945		2	1		1						X	X	X	X	X	X			"	02
3	MW-303	WT	G	xxx	xxx	"	0845		2	1		1						X	X	X	X	X	X			"	03
4	MW-304	WT	G	xxx	xxx	1-9-17	1800		2	1		1						X	X	X	X	X	X			"	04
5	MW-305	WT	G	xxx	xxx	1-10-17	1515		2	1		1						X	X	X	X	X	X			"	05
6	MW-306	WT	G	xxx	xxx	"	1630		2	1		1						X	X	X	X	X	X			"	06
7	MW-307	WT	G	xxx	xxx	"	1715		2	1		1						X	X	X	X	X	X			"	07
8	MW-308	WT	G	xxx	xxx	"	1235		2	1		1						X	X	X	X	X	X			"	08
9	MW-309	WT	G	xxx	xxx	"	1410		2	1		1						X	X	X	X	X	X			"	09
10	MW-310	WT	G	xxx	xxx	1-9-17	1640		2	1		1						X	X	X	X	X	X			"	10
11	MW-311	WT	G	xxx	xxx	"	1530		2	1		1						X	X	X	X	X	X			"	11
12	FIELD BLANK	WT	G	xxx	xxx	1-10-17	1530		2	1		1						X	X	X	X	X	X			"	12

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Kyle Kramer	1-11-17	1240		1/12/17	0945	1-5	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl							0-2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer
SIGNATURE of SAMPLER: Kyle Kramer
DATE Signed (MM/DD/YY): 1-11-17

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

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

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

February 03, 2017

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.00
Pace Project No.: 60235895

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on January 12, 2017. 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Burlington/25216066.00
Pace Project No.: 60235895

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60235895001	**MW-301**	Water	01/10/17 10:40	01/12/17 09:15
60235895002	**MW-302**	Water	01/10/17 09:45	01/12/17 09:15
60235895003	**MW-303**	Water	01/10/17 08:45	01/12/17 09:15
60235895004	**MW-304**	Water	01/09/17 18:00	01/12/17 09:15
60235895005	**MW-305**	Water	01/10/17 15:15	01/12/17 09:15
60235895006	**MW-306**	Water	01/10/17 16:30	01/12/17 09:15
60235895007	**MW-307**	Water	01/10/17 17:15	01/12/17 09:15
60235895008	**MW-308**	Water	01/10/17 12:35	01/12/17 09:15
60235895009	**MW-309**	Water	01/10/17 14:10	01/12/17 09:15
60235895010	**MW-310**	Water	01/09/17 16:40	01/12/17 09:15
60235895011	**MW-311**	Water	01/09/17 15:30	01/12/17 09:15
60235895012	**FIELD BLANK**	Water	01/10/17 15:30	01/12/17 09:15

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60235895

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60235895001	MW-301	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895002	MW-302	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895003	MW-303	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895004	MW-304	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895005	MW-305	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895006	MW-306	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895007	MW-307	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895008	MW-308	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895009	MW-309	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895010	MW-310	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895011	MW-311	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60235895012	FIELD BLANK	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-301 **Lab ID: 60235895001** Collected: 01/10/17 10:40 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0709 ± 0.323 (0.658) C:NA T:85%**	pCi/L	02/02/17 11:33	13982-63-3	
Radium-228	EPA 904.0	**0.441 ± 0.407 (0.831) C:67% T:83%**	pCi/L	02/03/17 11:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.512 ± 0.730 (1.49)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-302 **Lab ID: 60235895002** Collected: 01/10/17 09:45 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.604 ± 0.425 (0.205) C:NA T:80%**	pCi/L	02/02/17 11:33	13982-63-3	
Radium-228	EPA 904.0	**0.987 ± 0.413 (0.652) C:76% T:85%**	pCi/L	02/03/17 11:39	15262-20-1	
Total Radium	Total Radium Calculation	**1.59 ± 0.838 (0.857)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-303 **Lab ID: 60235895003** Collected: 01/10/17 08:45 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.677 ± 0.449 (0.204) C:NA T:78%**	pCi/L	02/02/17 11:33	13982-63-3	
Radium-228	EPA 904.0	**1.30 ± 0.561 (0.932) C:70% T:76%**	pCi/L	02/03/17 11:40	15262-20-1	
Total Radium	Total Radium Calculation	**1.98 ± 1.01 (1.14)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-304 **Lab ID: 60235895004** Collected: 01/09/17 18:00 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0670 ± 0.306 (0.623) C:NA T:85%**	pCi/L	02/02/17 11:33	13982-63-3	
Radium-228	EPA 904.0	**0.388 ± 0.378 (0.776) C:66% T:86%**	pCi/L	02/03/17 11:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.455 ± 0.684 (1.40)**	pCi/L	02/03/17 16:38	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-305 **Lab ID: 60235895005** Collected: 01/10/17 15:15 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.467 ± 0.437 (0.620) C:NA T:86%**	pCi/L	02/02/17 11:49	13982-63-3	
Radium-228	EPA 904.0	**0.847 ± 0.440 (0.784) C:67% T:89%**	pCi/L	02/03/17 11:40	15262-20-1	
Total Radium	Total Radium Calculation	**1.31 ± 0.877 (1.40)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-306 **Lab ID: 60235895006** Collected: 01/10/17 16:30 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0633 ± 0.328 (0.681) C:NA T:90%**	pCi/L	02/02/17 11:49	13982-63-3	
Radium-228	EPA 904.0	**0.681 ± 0.424 (0.793) C:73% T:76%**	pCi/L	02/03/17 11:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.744 ± 0.752 (1.47)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-307 **Lab ID: 60235895007** Collected: 01/10/17 17:15 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**-0.075 ± 0.341 (0.694) C:NA T:75%**	pCi/L	02/02/17 11:49	13982-63-3	
Radium-228	EPA 904.0	**-0.0697 ± 0.413 (0.980) C:69% T:65%**	pCi/L	02/03/17 11:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.000 ± 0.754 (1.67)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-308 **Lab ID: 60235895008** Collected: 01/10/17 12:35 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.315 (0.508) C:NA T:83%**	pCi/L	02/02/17 11:49	13982-63-3	
Radium-228	EPA 904.0	**-0.0590 ± 0.386 (0.911) C:69% T:75%**	pCi/L	02/03/17 11:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.000 ± 0.701 (1.42)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-309 **Lab ID: 60235895009** Collected: 01/10/17 14:10 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.650 ± 0.621 (0.946) C:NA T:83%**	pCi/L	02/02/17 11:49	13982-63-3	
Radium-228	EPA 904.0	**0.390 ± 0.376 (0.770) C:71% T:77%**	pCi/L	02/03/17 11:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.455 ± 0.997 (1.72)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-310 **Lab ID: 60235895010** Collected: 01/09/17 16:40 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.527 ± 0.487 (0.710) C:NA T:89%**	pCi/L	02/02/17 11:49	13982-63-3	
Radium-228	EPA 904.0	**0.414 ± 0.398 (0.815) C:65% T:83%**	pCi/L	02/03/17 11:41	15262-20-1	
Total Radium	Total Radium Calculation	**0.941 ± 0.885 (1.53)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: MW-311 **Lab ID: 60235895011** Collected: 01/09/17 15:30 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.299 ± 0.509 (0.899) C:NA T:78%**	pCi/L	02/02/17 12:06	13982-63-3	
Radium-228	EPA 904.0	**0.886 ± 0.448 (0.771) C:69% T:76%**	pCi/L	02/03/17 11:41	15262-20-1	
Total Radium	Total Radium Calculation	**1.19 ± 0.957 (1.67)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

Sample: FIELD BLANK **Lab ID: 60235895012** Collected: 01/10/17 15:30 Received: 01/12/17 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.123 ± 0.280 (0.166) C:NA T:93%**	pCi/L	02/02/17 12:06	13982-63-3	
Radium-228	EPA 904.0	**0.231 ± 0.351 (0.758) C:78% T:79%**	pCi/L	02/03/17 11:41	15262-20-1	
Total Radium	Total Radium Calculation	**0.354 ± 0.631 (0.924)**	pCi/L	02/03/17 16:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

QC Batch: 246764 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60235895001, 60235895002, 60235895003, 60235895004, 60235895005, 60235895006, 60235895007, 60235895008, 60235895009, 60235895010, 60235895011, 60235895012

METHOD BLANK: 1213388 Matrix: Water
Associated Lab Samples: 60235895001, 60235895002, 60235895003, 60235895004, 60235895005, 60235895006, 60235895007, 60235895008, 60235895009, 60235895010, 60235895011, 60235895012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0670 ± 0.306 (0.181) C:NA T:93%	pCi/L	02/02/17 11:15	

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 - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60235895

QC Batch: 246765 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60235895001, 60235895002, 60235895003, 60235895004, 60235895005, 60235895006, 60235895007, 60235895008, 60235895009, 60235895010, 60235895011, 60235895012

METHOD BLANK: 1213389 Matrix: Water
Associated Lab Samples: 60235895001, 60235895002, 60235895003, 60235895004, 60235895005, 60235895006, 60235895007, 60235895008, 60235895009, 60235895010, 60235895011, 60235895012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.221 ± 0.335 (0.724) C:80% T:78%	pCi/L	02/03/17 11:38	

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

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QUALIFIERS

Project: Burlington/25216066.00
Pace Project No.: 60235895

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.

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.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60235895

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60235895001	**MW-301**	EPA 903.1	246764		
60235895002	**MW-302**	EPA 903.1	246764		
60235895003	**MW-303**	EPA 903.1	246764		
60235895004	**MW-304**	EPA 903.1	246764		
60235895005	**MW-305**	EPA 903.1	246764		
60235895006	**MW-306**	EPA 903.1	246764		
60235895007	**MW-307**	EPA 903.1	246764		
60235895008	**MW-308**	EPA 903.1	246764		
60235895009	**MW-309**	EPA 903.1	246764		
60235895010	**MW-310**	EPA 903.1	246764		
60235895011	**MW-311**	EPA 903.1	246764		
60235895012	**FIELD BLANK**	EPA 903.1	246764		
60235895001	**MW-301**	EPA 904.0	246765		
60235895002	**MW-302**	EPA 904.0	246765		
60235895003	**MW-303**	EPA 904.0	246765		
60235895004	**MW-304**	EPA 904.0	246765		
60235895005	**MW-305**	EPA 904.0	246765		
60235895006	**MW-306**	EPA 904.0	246765		
60235895007	**MW-307**	EPA 904.0	246765		
60235895008	**MW-308**	EPA 904.0	246765		
60235895009	**MW-309**	EPA 904.0	246765		
60235895010	**MW-310**	EPA 904.0	246765		
60235895011	**MW-311**	EPA 904.0	246765		
60235895012	**FIELD BLANK**	EPA 904.0	246765		
60235895001	**MW-301**	Total Radium Calculation	248386		
60235895002	**MW-302**	Total Radium Calculation	248386		
60235895003	**MW-303**	Total Radium Calculation	248386		
60235895004	**MW-304**	Total Radium Calculation	248386		
60235895005	**MW-305**	Total Radium Calculation	248386		
60235895006	**MW-306**	Total Radium Calculation	248386		
60235895007	**MW-307**	Total Radium Calculation	248386		
60235895008	**MW-308**	Total Radium Calculation	248386		
60235895009	**MW-309**	Total Radium Calculation	248386		
60235895010	**MW-310**	Total Radium Calculation	248386		
60235895011	**MW-311**	Total Radium Calculation	248386		
60235895012	**FIELD BLANK**	Total Radium Calculation	248386		

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Sample Condition Upon Receipt

WO# : 60235895

60235895

Client Name: SCS Eng.

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7852 8853 7150 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: CF +0.7 / CF -0.5 T-266 / T-239 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 0.4 2.3 **Corr. Factor** CF +0.7 CF +0.9 **Corrected** 3.0 1.1

Date and initials of person examining contents: MW 1/12/19

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	
Cyanide water sample checks: ☑ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☑No ☐N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: CMC for JAS ✓ Date: 01/12/19

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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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:	~~25215173.10~~ 252160000.00

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	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	903.1 Radium-226	904.0 Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-301	WT	G	xxx	xxx	1-10-17	1040		2			2							X	X	X		60235895 001
2	MW-302	WT	G	xxx	xxx	"	0945		2			2							X	X	X		002
3	MW-303	WT	G	xxx	xxx	"	0845		2			2							X	X	X		003
4	MW-304	WT	G	xxx	xxx	1-9-17	1600		2			2							X	X	X		004
5	MW-305	WT	G	xxx	xxx	1-10-17	1515		2			2							X	X	X		005
6	MW-306	WT	G	xxx	xxx	"	1630		2			2							X	X	X		006
7	MW-307	WT	G	xxx	xxx	"	1715		2			2							X	X	X		007
8	MW-308	WT	G	xxx	xxx	"	1235		2			2							X	X	X		008
9	MW-309	WT	G	xxx	xxx	"	1410		2			2							X	X	X		009
10	MW-310	WT	G	xxx	xxx	1-9-17	1640		2			2							X	X	X		010
11	MW-311	WT	G	xxx	xxx	1-9-17	1530		2			2							X	X	X		011
12	FIELD BLANK	WT	G	xxx	xxx	1-10-17	1530		2			2							X	X	X		012

(6GPIN) 45

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219		1-11-17	1240		1/12/17	0915	1.1	Y	Y	Y
							3.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1-11-17

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

Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: 60235895 **Workorder Name:** Burlington **Owner Received Date:** 1/12/2017 **Results Requested By:** 1/24/2017

Report To	Subcontract To
Trudy Gipson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO#:30207936

30207936

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: BP1N	Requested Analysis: Radium 226/228	Total Radium	LAB USE ONLY
1	MW-301	PS	1/10/2017 10:40	60235895001	Water	2	X	X	001
2	MW-302	PS	1/10/2017 09:45	60235895002	Water	2	X	X	002
3	MW-303	PS	1/10/2017 08:45	60235895003	Water	2	X	X	003
4	MW-304	PS	1/9/2017 18:00	60235895004	Water	2	X	X	004
5	MW-305	PS	1/10/2017 15:15	60235895005	Water	2	X	X	005
6	MW-306	PS	1/10/2017 16:30	60235895006	Water	2	X	X	006
7	MW-307	PS	1/10/2017 17:15	60235895007	Water	2	X	X	007
8	MW-308	PS	1/10/2017 12:35	60235895008	Water	2	X	X	008
9	MW-309	PS	1/10/2017 14:10	60235895009	Water	2	X	X	009
10	MW-310	PS	1/9/2017 16:40	60235895010	Water	2	X	X	010
11	MW-311	PS	1/9/2017 15:30	60235895011	Water	2	X	X	011
12	FIELD BLANK	PS	1/10/2017 15:30	60235895012	Water	2	X	X	012

Transfers	Released By	Date/Time	Received	Date/Time
1	[signature]	1/12/17 1700	[signature]	1-13-17 940
2				
3				

Comments

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

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

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Kansas

Project # 30207936

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

Tracking #: 7044 6658 5550

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

Thermometer Used _____ **Type of Ice:** Wet Blue (None)

Cooler Temperature **Observed Temp** N/A °C Correction Factor: ____ °C Final Temp: ____ °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ML 1-13-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC: -Includes date/time/ID Matrix: W	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used: -Pace Containers Used:	X			10.
Containers Intact:	X			11.
Orthophosphate field filtered		X		12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.	X		X	15. ML 1-13-17 pH<2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: ML Date/time of preservation: ____ Lot # of added preservative: ____
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: ML Date: 1-13-17

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

A6 Round 6 Background Sampling, Analytical Laboratory Report

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

April 14, 2017

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.17
Pace Project No.: 60241272

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 2017. 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
1(913)563-1405
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

Pace Analytical Services, LLC
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Lenexa, KS 66219
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SAMPLE SUMMARY

Project: Burlington/25216066.17
Pace Project No.: 60241272

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60241272001	**MW-301**	Water	04/03/17 18:30	04/05/17 08:55
60241272002	**MW-302**	Water	04/03/17 17:25	04/05/17 08:55
60241272003	**MW-303**	Water	04/03/17 16:25	04/05/17 08:55
60241272004	**MW-304**	Water	04/03/17 15:20	04/05/17 08:55
60241272005	**MW-305**	Water	04/03/17 14:20	04/05/17 08:55
60241272006	**MW-306**	Water	04/04/17 09:00	04/05/17 08:55
60241272007	**MW-307**	Water	04/04/17 09:55	04/05/17 08:55
60241272008	**MW-308**	Water	04/04/17 10:45	04/05/17 08:55
60241272009	**MW-309**	Water	04/04/17 11:30	04/05/17 08:55
60241272010	**MW-310**	Water	04/04/17 13:00	04/05/17 08:55
60241272011	**MW-311**	Water	04/04/17 12:30	04/05/17 08:55
60241272012	**FIELD BLANK**	Water	04/03/17 14:30	04/05/17 08:55

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.17
Pace Project No.: 60241272

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60241272001	**MW-301**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272002	**MW-302**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272003	**MW-303**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272004	**MW-304**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272005	**MW-305**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272006	**MW-306**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272007	**MW-307**	EPA 6010	JGP	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.17
Pace Project No.: 60241272

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272008	**MW-308**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272009	**MW-309**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272010	**MW-310**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272011	**MW-311**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60241272012	**FIELD BLANK**	EPA 6010	JGP	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	TDS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-301 **Lab ID: 60241272001** Collected: 04/03/17 18:30 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/03/17 18:30		
Field pH	**7.37**	Std. Units	0.10	0.050	1		04/03/17 18:30		
Field Temperature	**12.9**	deg C	0.50	0.25	1		04/03/17 18:30		
Field Specific Conductance	**2507**	umhos/cm	1.0	1.0	1		04/03/17 18:30		
Field Oxidation Potential	**-164.7**	mV			1		04/03/17 18:30		
Oxygen, Dissolved	**0.12**	mg/L			1		04/03/17 18:30	7782-44-7	
Turbidity	**1.12**	NTU	1.0	1.0	1		04/03/17 18:30		
Groundwater Elevation	**523.08**	feet			1		04/03/17 18:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**14500**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 17:25	7440-42-8	M1
Calcium	**220**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 17:25	7440-70-2	M1
Lithium	**13.2**	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 17:25	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.049J**	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 17:46	7440-36-0	
Arsenic	**46.1**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 17:46	7440-38-2	
Barium	**464**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 17:46	7440-39-3	
Beryllium	**0.046J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 17:46	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 17:46	7440-43-9	
Chromium	**0.34J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 17:46	7440-47-3	
Cobalt	**0.57J**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 17:46	7440-48-4	
Lead	**0.091J**	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 17:46	7439-92-1	
Molybdenum	**82.8**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 17:46	7439-98-7	
Selenium	**0.40J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 17:46	7782-49-2	
Thallium	**0.080J**	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 17:46	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:08	7439-97-6	M1
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1020**	mg/L	5.0	5.0	1		04/05/17 15:03		
9040 pH	Analytical Method: EPA 9040								
pH	**7.4**	Std. Units	0.10	0.10	1		04/10/17 12:12		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.7**	mg/L	2.0	1.0	2		04/06/17 14:14	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.10	1		04/06/17 13:30	16984-48-8	
Sulfate	**215**	mg/L	50.0	25.0	50		04/06/17 12:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-302 **Lab ID: 60241272002** Collected: 04/03/17 17:25 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/03/17 17:25		
Field pH	**8.71**	Std. Units	0.10	0.050	1		04/03/17 17:25		
Field Temperature	**13.2**	deg C	0.50	0.25	1		04/03/17 17:25		
Field Specific Conductance	**2037**	umhos/cm	1.0	1.0	1		04/03/17 17:25		
Field Oxidation Potential	**-227.8**	mV			1		04/03/17 17:25		
Oxygen, Dissolved	**0.12**	mg/L			1		04/03/17 17:25	7782-44-7	
Turbidity	**1.99**	NTU	1.0	1.0	1		04/03/17 17:25		
Groundwater Elevation	**522.84**	feet			1		04/03/17 17:25		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**10100**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 17:36	7440-42-8	
Calcium	**232**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 17:36	7440-70-2	
Lithium	**57.3**	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 17:36	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.043J**	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 17:51	7440-36-0	
Arsenic	**49.1**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 17:51	7440-38-2	
Barium	**356**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 17:51	7440-39-3	
Beryllium	**0.023J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 17:51	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 17:51	7440-43-9	
Chromium	**0.15J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 17:51	7440-47-3	
Cobalt	**0.19J**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 17:51	7440-48-4	
Lead	**0.058J**	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 17:51	7439-92-1	
Molybdenum	**105**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 17:51	7439-98-7	
Selenium	**0.24J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 17:51	7782-49-2	
Thallium	**0.040J**	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 17:51	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:19	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**945**	mg/L	5.0	5.0	1		04/05/17 15:04		
9040 pH	Analytical Method: EPA 9040								
pH	**8.0**	Std. Units	0.10	0.10	1		04/10/17 12:11		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**16.6**	mg/L	1.0	0.50	1		04/06/17 15:57	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		04/06/17 15:57	16984-48-8	
Sulfate	**540**	mg/L	50.0	25.0	50		04/06/17 14:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-303 **Lab ID: 60241272003** Collected: 04/03/17 16:25 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/03/17 00:00		
Field pH	**7.57**	Std. Units	0.10	0.050	1		04/03/17 00:00		
Field Temperature	**14.1**	deg C	0.50	0.25	1		04/03/17 00:00		
Field Specific Conductance	**1100**	umhos/cm	1.0	1.0	1		04/03/17 00:00		
Field Oxidation Potential	**-163.9**	mV			1		04/03/17 00:00		
Oxygen, Dissolved	**0.10**	mg/L			1		04/03/17 00:00	7782-44-7	
Turbidity	**4.42**	NTU	1.0	1.0	1		04/03/17 00:00		
Groundwater Elevation	**522.81**	feet			1		04/03/17 00:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**28800**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 17:39	7440-42-8	
Calcium	**88.6**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 17:39	7440-70-2	
Lithium	**46.6**	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 17:39	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.029J**	ug/L	1.0	0.026	1	04/11/17 17:40	04/14/17 12:21	7440-36-0	
Arsenic	**21.7**	ug/L	1.0	0.052	1	04/11/17 17:40	04/14/17 12:21	7440-38-2	
Barium	**334**	ug/L	1.0	0.095	1	04/11/17 17:40	04/14/17 12:21	7440-39-3	
Beryllium	**0.019J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/14/17 12:21	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/14/17 12:21	7440-43-9	
Chromium	**0.20J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/14/17 12:21	7440-47-3	
Cobalt	**0.38J**	ug/L	1.0	0.014	1	04/11/17 17:40	04/14/17 12:21	7440-48-4	
Lead	**0.047J**	ug/L	1.0	0.033	1	04/11/17 17:40	04/14/17 12:21	7439-92-1	
Molybdenum	**51.7**	ug/L	1.0	0.058	1	04/11/17 17:40	04/14/17 12:21	7439-98-7	
Selenium	**0.28J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/14/17 12:21	7782-49-2	
Thallium	**0.063J**	ug/L	1.0	0.036	1	04/11/17 17:40	04/14/17 12:21	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:22	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**454**	mg/L	5.0	5.0	1		04/05/17 15:04		
9040 pH	Analytical Method: EPA 9040								
pH	**7.6**	Std. Units	0.10	0.10	1		04/10/17 12:10		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.2**	mg/L	1.0	0.50	1		04/06/17 16:26	16887-00-6	
Fluoride	**0.20J**	mg/L	0.20	0.10	1		04/06/17 16:26	16984-48-8	
Sulfate	**24.1**	mg/L	2.0	1.0	2		04/06/17 16:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-304 **Lab ID: 60241272004** Collected: 04/03/17 15:20 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/03/17 15:20		
Field pH	**8.58**	Std. Units	0.10	0.050	1		04/03/17 15:20		
Field Temperature	**14.1**	deg C	0.50	0.25	1		04/03/17 15:20		
Field Specific Conductance	**1427**	umhos/cm	1.0	1.0	1		04/03/17 15:20		
Field Oxidation Potential	**-260.1**	mV			1		04/03/17 15:20		
Oxygen, Dissolved	**0.11**	mg/L			1		04/03/17 15:20	7782-44-7	
Turbidity	**0.61**	NTU	1.0	1.0	1		04/03/17 15:20		
Groundwater Elevation	**522.87**	feet			1		04/03/17 15:20		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5340**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 17:43	7440-42-8	
Calcium	**118**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 17:43	7440-70-2	
Lithium	**52.1**	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 17:43	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.63J**	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 18:08	7440-36-0	
Arsenic	**60.0**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 18:08	7440-38-2	
Barium	**131**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 18:08	7440-39-3	
Beryllium	**0.036J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 18:08	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 18:08	7440-43-9	
Chromium	**0.16J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 18:08	7440-47-3	
Cobalt	**0.13J**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 18:08	7440-48-4	
Lead	ND	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 18:08	7439-92-1	
Molybdenum	**90.6**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 18:08	7439-98-7	
Selenium	**0.31J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 18:08	7782-49-2	
Thallium	**0.068J**	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 18:08	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:24	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**593**	mg/L	5.0	5.0	1		04/05/17 15:05		
9040 pH	Analytical Method: EPA 9040								
pH	**7.9**	Std. Units	0.10	0.10	1		04/10/17 12:08		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**39.2**	mg/L	5.0	2.5	5		04/06/17 17:10	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		04/06/17 16:55	16984-48-8	
Sulfate	**263**	mg/L	20.0	10.0	20		04/07/17 17:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-305 **Lab ID: 60241272005** Collected: 04/03/17 14:20 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/03/17 14:20		
Field pH	**7.55**	Std. Units	0.10	0.050	1		04/03/17 14:20		
Field Temperature	**14.9**	deg C	0.50	0.25	1		04/03/17 14:20		
Field Specific Conductance	**1195**	umhos/cm	1.0	1.0	1		04/03/17 14:20		
Field Oxidation Potential	**-145.1**	mV			1		04/03/17 14:20		
Oxygen, Dissolved	**0.13**	mg/L			1		04/03/17 14:20	7782-44-7	
Turbidity	**1.88**	NTU	1.0	1.0	1		04/03/17 14:20		
Groundwater Elevation	**523.03**	feet			1		04/03/17 14:20		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**1880**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 17:47	7440-42-8	
Calcium	**82.8**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 17:47	7440-70-2	
Lithium	**25.0**	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 17:47	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 18:13	7440-36-0	
Arsenic	**0.32J**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 18:13	7440-38-2	B
Barium	**178**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 18:13	7440-39-3	
Beryllium	**0.038J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 18:13	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 18:13	7440-43-9	
Chromium	**0.29J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 18:13	7440-47-3	
Cobalt	**0.14J**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 18:13	7440-48-4	
Lead	**0.19J**	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 18:13	7439-92-1	
Molybdenum	**0.89J**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 18:13	7439-98-7	
Selenium	**0.19J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 18:13	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 18:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:26	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**410**	mg/L	5.0	5.0	1		04/05/17 15:06		
9040 pH	Analytical Method: EPA 9040								
pH	**7.5**	Std. Units	0.10	0.10	1		04/10/17 12:03		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**34.2**	mg/L	2.0	1.0	2		04/06/17 17:54	16887-00-6	
Fluoride	**0.42**	mg/L	0.20	0.10	1		04/06/17 17:39	16984-48-8	
Sulfate	**10.2**	mg/L	1.0	0.50	1		04/06/17 17:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-306 **Lab ID: 60241272006** Collected: 04/04/17 09:00 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/04/17 09:00		
Field pH	**6.29**	Std. Units	0.10	0.050	1		04/04/17 09:00		
Field Temperature	**14.5**	deg C	0.50	0.25	1		04/04/17 09:00		
Field Specific Conductance	**823**	umhos/cm	1.0	1.0	1		04/04/17 09:00		
Field Oxidation Potential	**-64.7**	mV			1		04/04/17 09:00		
Oxygen, Dissolved	**0.12**	mg/L			1		04/04/17 09:00	7782-44-7	
Turbidity	**0.14**	NTU	1.0	1.0	1		04/04/17 09:00		
Groundwater Elevation	**523.07**	feet			1		04/04/17 09:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3770**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 17:50	7440-42-8	
Calcium	**40.3**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 17:50	7440-70-2	
Lithium	**41.2**	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 17:50	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.2**	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 18:17	7440-36-0	
Arsenic	**50.5**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 18:17	7440-38-2	
Barium	**14.8**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 18:17	7440-39-3	
Beryllium	**0.024J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 18:17	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 18:17	7440-43-9	
Chromium	**0.49J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 18:17	7440-47-3	
Cobalt	**0.034J**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 18:17	7440-48-4	
Lead	**0.16J**	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 18:17	7439-92-1	
Molybdenum	**87.4**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 18:17	7439-98-7	
Selenium	**0.48J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 18:17	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 18:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:28	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**302**	mg/L	5.0	5.0	1		04/05/17 15:08		
9040 pH	Analytical Method: EPA 9040								
pH	**6.8**	Std. Units	0.10	0.10	1		04/10/17 12:14		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.2**	mg/L	2.0	1.0	2		04/06/17 19:08	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		04/06/17 18:53	16984-48-8	
Sulfate	**120**	mg/L	10.0	5.0	10		04/06/17 18:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-307 **Lab ID: 60241272007** Collected: 04/04/17 09:55 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/04/17 09:55		
Field pH	**10.94**	Std. Units	0.10	0.050	1		04/04/17 09:55		
Field Temperature	**14.4**	deg C	0.50	0.25	1		04/04/17 09:55		
Field Specific Conductance	**901**	umhos/cm	1.0	1.0	1		04/04/17 09:55		
Field Oxidation Potential	**-287.1**	mV			1		04/04/17 09:55		
Oxygen, Dissolved	**0.28**	mg/L			1		04/04/17 09:55	7782-44-7	
Turbidity	**0.14**	NTU	1.0	1.0	1		04/04/17 09:55		
Groundwater Elevation	**523.14**	feet			1		04/04/17 09:55		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4050**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 18:05	7440-42-8	
Calcium	**32.3**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 18:05	7440-70-2	
Lithium	**48.4**	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 18:05	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.48J**	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 18:35	7440-36-0	
Arsenic	**56.2**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 18:35	7440-38-2	
Barium	**33.4**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 18:35	7440-39-3	
Beryllium	**0.033J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 18:35	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 18:35	7440-43-9	
Chromium	**0.19J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 18:35	7440-47-3	
Cobalt	**0.037J**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 18:35	7440-48-4	
Lead	**0.43J**	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 18:35	7439-92-1	
Molybdenum	**154**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 18:35	7439-98-7	
Selenium	**0.42J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 18:35	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 18:35	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**0.047J**	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:30	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**354**	mg/L	5.0	5.0	1		04/05/17 15:08		
9040 pH	Analytical Method: EPA 9040								
pH	**9.8**	Std. Units	0.10	0.10	1		04/10/17 12:15		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.9**	mg/L	2.0	1.0	2		04/06/17 19:37	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		04/06/17 19:22	16984-48-8	
Sulfate	**135**	mg/L	10.0	5.0	10		04/06/17 19:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-308 **Lab ID: 60241272008** Collected: 04/04/17 10:45 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/04/17 10:45		
Field pH	**10.34**	Std. Units	0.10	0.050	1		04/04/17 10:45		
Field Temperature	**14.1**	deg C	0.50	0.25	1		04/04/17 10:45		
Field Specific Conductance	**1258**	umhos/cm	1.0	1.0	1		04/04/17 10:45		
Field Oxidation Potential	**-300.6**	mV			1		04/04/17 10:45		
Oxygen, Dissolved	**0.16**	mg/L			1		04/04/17 10:45	7782-44-7	
Turbidity	**0.43**	NTU	1.0	1.0	1		04/04/17 10:45		
Groundwater Elevation	**523.07**	feet			1		04/04/17 10:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5160**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 18:09	7440-42-8	
Calcium	**34.2**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 18:09	7440-70-2	
Lithium	**46.9**	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 18:09	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.28J**	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 18:39	7440-36-0	
Arsenic	**83.1**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 18:39	7440-38-2	
Barium	**85.1**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 18:39	7440-39-3	
Beryllium	**0.017J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 18:39	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 18:39	7440-43-9	
Chromium	**0.22J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 18:39	7440-47-3	
Cobalt	**0.060J**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 18:39	7440-48-4	
Lead	**0.21J**	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 18:39	7439-92-1	
Molybdenum	**140**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 18:39	7439-98-7	
Selenium	**0.40J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 18:39	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 18:39	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**0.047J**	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:33	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**494**	mg/L	5.0	5.0	1		04/05/17 15:12		
9040 pH	Analytical Method: EPA 9040								
pH	**9.2**	Std. Units	0.10	0.10	1		04/10/17 12:16		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**42.6**	mg/L	5.0	2.5	5		04/06/17 20:21	16887-00-6	
Fluoride	**0.11J**	mg/L	0.20	0.10	1		04/06/17 20:06	16984-48-8	
Sulfate	**175**	mg/L	20.0	10.0	20		04/06/17 20:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-309 **Lab ID: 60241272009** Collected: 04/04/17 11:30 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/04/17 11:30		
Field pH	**7.31**	Std. Units	0.10	0.050	1		04/04/17 11:30		
Field Temperature	**13.9**	deg C	0.50	0.25	1		04/04/17 11:30		
Field Specific Conductance	**2528**	umhos/cm	1.0	1.0	1		04/04/17 11:30		
Field Oxidation Potential	**-138.0**	mV			1		04/04/17 11:30		
Oxygen, Dissolved	**0.20**	mg/L			1		04/04/17 11:30	7782-44-7	
Turbidity	**15.11**	NTU	1.0	1.0	1		04/04/17 11:30		
Groundwater Elevation	**523.10**	feet			1		04/04/17 11:30		
6010 MET ICP	Analytical Method: EPA 6010		Preparation Method: EPA 3010						
Boron	**3800**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 18:12	7440-42-8	
Calcium	**156**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 18:12	7440-70-2	
Lithium	**5.0J**	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 18:12	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020		Preparation Method: EPA 3010						
Antimony	**0.039J**	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 18:44	7440-36-0	
Arsenic	**30.0**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 18:44	7440-38-2	
Barium	**264**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 18:44	7440-39-3	
Beryllium	**0.037J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 18:44	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 18:44	7440-43-9	
Chromium	**0.23J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 18:44	7440-47-3	
Cobalt	**6.5**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 18:44	7440-48-4	
Lead	ND	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 18:44	7439-92-1	
Molybdenum	**41.5**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 18:44	7439-98-7	
Selenium	**0.44J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 18:44	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 18:44	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470		Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:35	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**955**	mg/L	5.0	5.0	1		04/05/17 15:12		
9040 pH	Analytical Method: EPA 9040								
pH	**7.4**	Std. Units	0.10	0.10	1		04/10/17 12:19		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**82.7**	mg/L	10.0	5.0	10		04/06/17 20:51	16887-00-6	
Fluoride	**0.41**	mg/L	0.20	0.10	1		04/06/17 21:35	16984-48-8	
Sulfate	**198**	mg/L	20.0	10.0	20		04/07/17 18:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-310 **Lab ID: 60241272010** Collected: 04/04/17 13:00 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/04/17 11:30		
Field pH	**7.50**	Std. Units	0.10	0.050	1		04/04/17 11:30		
Field Temperature	**12.0**	deg C	0.50	0.25	1		04/04/17 11:30		
Field Specific Conductance	**2528**	umhos/cm	1.0	1.0	1		04/04/17 11:30		
Field Oxidation Potential	**-175.4**	mV			1		04/04/17 11:30		
Oxygen, Dissolved	**0.20**	mg/L			1		04/04/17 11:30	7782-44-7	
Turbidity	**2.23**	NTU	1.0	1.0	1		04/04/17 11:30		
Groundwater Elevation	**525.52**	feet			1		04/04/17 11:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**503**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 18:16	7440-42-8	
Calcium	**180**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 18:16	7440-70-2	
Lithium	ND	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 18:16	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.032J**	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 18:48	7440-36-0	
Arsenic	**79.8**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 18:48	7440-38-2	
Barium	**825**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 18:48	7440-39-3	
Beryllium	**0.019J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 18:48	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 18:48	7440-43-9	
Chromium	**0.19J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 18:48	7440-47-3	
Cobalt	**1.9**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 18:48	7440-48-4	
Lead	ND	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 18:48	7439-92-1	
Molybdenum	**3.4**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 18:48	7439-98-7	
Selenium	**0.24J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 18:48	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 18:48	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:37	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**853**	mg/L	5.0	5.0	1		04/05/17 15:12		
9040 pH	Analytical Method: EPA 9040								
pH	**7.3**	Std. Units	0.10	0.10	1		04/10/17 12:22		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**187**	mg/L	10.0	5.0	10		04/06/17 22:19	16887-00-6	
Fluoride	**0.26**	mg/L	0.20	0.10	1		04/06/17 21:49	16984-48-8	
Sulfate	**34.3**	mg/L	5.0	2.5	5		04/06/17 22:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: MW-311 **Lab ID: 60241272011** Collected: 04/04/17 12:30 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		04/04/17 12:30		
Field pH	**7.51**	Std. Units	0.10	0.050	1		04/04/17 12:30		
Field Temperature	**12.4**	deg C	0.50	0.25	1		04/04/17 12:30		
Field Specific Conductance	**2059**	umhos/cm	1.0	1.0	1		04/04/17 12:30		
Field Oxidation Potential	**-157.4**	mV			1		04/04/17 12:30		
Oxygen, Dissolved	**0.22**	mg/L			1		04/04/17 12:30	7782-44-7	
Turbidity	**3.00**	NTU	1.0	1.0	1		04/04/17 12:30		
Groundwater Elevation	**524.01**	feet			1		04/04/17 12:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2400**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 18:20	7440-42-8	
Calcium	**176**	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 18:20	7440-70-2	
Lithium	ND	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 18:20	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 18:53	7440-36-0	
Arsenic	**17.1**	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 18:53	7440-38-2	
Barium	**240**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 18:53	7440-39-3	
Beryllium	**0.036J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 18:53	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 18:53	7440-43-9	
Chromium	**0.18J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 18:53	7440-47-3	
Cobalt	**0.27J**	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 18:53	7440-48-4	
Lead	ND	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 18:53	7439-92-1	
Molybdenum	**12.4**	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 18:53	7439-98-7	
Selenium	**0.17J**	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 18:53	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 18:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:44	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**808**	mg/L	5.0	5.0	1		04/05/17 15:13		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		04/10/17 12:21		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**83.3**	mg/L	5.0	2.5	5		04/06/17 22:48	16887-00-6	
Fluoride	**0.27**	mg/L	0.20	0.10	1		04/06/17 22:33	16984-48-8	
Sulfate	**184**	mg/L	20.0	10.0	20		04/06/17 23:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60241272

Sample: FIELD BLANK **Lab ID: 60241272012** Collected: 04/03/17 14:30 Received: 04/05/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**14.8J**	ug/L	100	3.5	1	04/11/17 17:40	04/13/17 18:01	7440-42-8	
Calcium	ND	mg/L	0.10	0.036	1	04/11/17 17:40	04/13/17 18:01	7440-70-2	
Lithium	ND	ug/L	10.0	2.9	1	04/11/17 17:40	04/13/17 18:01	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.026	1	04/11/17 17:40	04/13/17 18:31	7440-36-0	
Arsenic	ND	ug/L	1.0	0.052	1	04/11/17 17:40	04/13/17 18:31	7440-38-2	
Barium	**0.45J**	ug/L	1.0	0.095	1	04/11/17 17:40	04/13/17 18:31	7440-39-3	B
Beryllium	**0.028J**	ug/L	0.50	0.012	1	04/11/17 17:40	04/13/17 18:31	7440-41-7	B
Cadmium	ND	ug/L	0.50	0.018	1	04/11/17 17:40	04/13/17 18:31	7440-43-9	
Chromium	**0.079J**	ug/L	1.0	0.054	1	04/11/17 17:40	04/13/17 18:31	7440-47-3	
Cobalt	ND	ug/L	1.0	0.014	1	04/11/17 17:40	04/13/17 18:31	7440-48-4	
Lead	ND	ug/L	1.0	0.033	1	04/11/17 17:40	04/13/17 18:31	7439-92-1	
Molybdenum	ND	ug/L	1.0	0.058	1	04/11/17 17:40	04/13/17 18:31	7439-98-7	
Selenium	ND	ug/L	1.0	0.086	1	04/11/17 17:40	04/13/17 18:31	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	04/11/17 17:40	04/13/17 18:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	04/05/17 14:30	04/06/17 10:46	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	5.0	5.0	1		04/05/17 15:06		
9040 pH	Analytical Method: EPA 9040								
pH	**5.8**	Std. Units	0.10	0.10	1		04/10/17 12:07		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	ND	mg/L	1.0	0.50	1		04/06/17 23:17	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		04/06/17 23:17	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		04/06/17 23:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60241272

QC Batch: 471487 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

METHOD BLANK: 1930504 Matrix: Water
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.046	04/06/17 10:04	

LABORATORY CONTROL SAMPLE: 1930505

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1930506 1930507

Parameter	Units	60241272001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	3.4	3.5	68	70	75-125	4	20	M1

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/25216066.17
Pace Project No.: 60241272

QC Batch: 472064 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

METHOD BLANK: 1933216 Matrix: Water
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	3.5	04/13/17 17:17	
Calcium	mg/L	ND	0.10	0.036	04/13/17 17:17	
Lithium	ug/L	ND	10.0	2.9	04/13/17 17:17	

LABORATORY CONTROL SAMPLE: 1933217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	1060	106	80-120	
Calcium	mg/L	10	10.7	107	80-120	
Lithium	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1933218 1933219

Parameter	Units	60241272001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	14500	1000	1000	15800	15900	136	144	75-125	1	20	M1
Calcium	mg/L	220	10	10	236	236	155	155	75-125	0	20	M1
Lithium	ug/L	13.2	1000	1000	1090	1090	108	108	75-125	0	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60241272

QC Batch: 472065 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

METHOD BLANK: 1933220 Matrix: Water
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.026	04/13/17 17:38	
Arsenic	ug/L	0.058J	1.0	0.052	04/13/17 17:38	
Barium	ug/L	0.11J	1.0	0.095	04/13/17 17:38	
Beryllium	ug/L	0.025J	0.50	0.012	04/13/17 17:38	
Cadmium	ug/L	ND	0.50	0.018	04/13/17 17:38	
Chromium	ug/L	ND	1.0	0.054	04/13/17 17:38	
Cobalt	ug/L	ND	1.0	0.014	04/13/17 17:38	
Lead	ug/L	ND	1.0	0.033	04/13/17 17:38	
Molybdenum	ug/L	ND	1.0	0.058	04/13/17 17:38	
Selenium	ug/L	ND	1.0	0.086	04/13/17 17:38	
Thallium	ug/L	0.042J	1.0	0.036	04/13/17 17:38	

LABORATORY CONTROL SAMPLE: 1933221

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.7	99	80-120	
Arsenic	ug/L	40	39.9	100	80-120	
Barium	ug/L	40	39.8	99	80-120	
Beryllium	ug/L	40	39.6	99	80-120	
Cadmium	ug/L	40	39.8	100	80-120	
Chromium	ug/L	40	41.2	103	80-120	
Cobalt	ug/L	40	40.3	101	80-120	
Lead	ug/L	40	38.9	97	80-120	
Molybdenum	ug/L	40	42.2	105	80-120	
Selenium	ug/L	40	38.6	96	80-120	
Thallium	ug/L	40	36.9	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1933222 1933223

Parameter	Units	60241272003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.029J	40	40	40.6	41.1	101	103	75-125	1	20	
Arsenic	ug/L	21.7	40	40	60.0	60.9	96	98	75-125	1	20	
Barium	ug/L	334	40	40	366	369	80	88	75-125	1	20	
Beryllium	ug/L	0.019J	40	40	36.8	38.1	92	95	75-125	4	20	
Cadmium	ug/L	ND	40	40	39.8	39.7	100	99	75-125	0	20	
Chromium	ug/L	0.20J	40	40	40.8	40.2	102	100	75-125	2	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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(913)599-5665

QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60241272

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1933222 1933223

Parameter	Units	60241272003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	0.38J	40	40	39.0	38.3	97	95	75-125	2	20	
Lead	ug/L	0.047J	40	40	39.4	39.8	98	99	75-125	1	20	
Molybdenum	ug/L	51.7	40	40	93.8	94.6	105	107	75-125	1	20	
Selenium	ug/L	0.28J	40	40	36.4	37.9	90	94	75-125	4	20	
Thallium	ug/L	0.063J	40	40	37.5	38.0	94	95	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60241272

QC Batch: 471470 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

METHOD BLANK: 1930449 Matrix: Water
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	04/05/17 14:59	

LABORATORY CONTROL SAMPLE: 1930450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	978	98	80-120	

SAMPLE DUPLICATE: 1930451

Parameter	Units	60241272001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1020	1010	1	10	

SAMPLE DUPLICATE: 1930452

Parameter	Units	60241142001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	6350	6270	1	10	

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/25216066.17
Pace Project No.: 60241272

QC Batch: 472056 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

SAMPLE DUPLICATE: 1933184

Parameter	Units	60241272005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.5	7.5	0	10	H6

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/25216066.17
Pace Project No.: 60241272

QC Batch: 471633 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

METHOD BLANK: 1931097 Matrix: Water
Associated Lab Samples: 60241272001, 60241272002, 60241272003, 60241272004, 60241272005, 60241272006, 60241272007, 60241272008, 60241272009, 60241272010, 60241272011, 60241272012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	04/06/17 07:53	
Fluoride	mg/L	ND	0.20	0.10	04/06/17 07:53	
Sulfate	mg/L	ND	1.0	0.50	04/06/17 07:53	

LABORATORY CONTROL SAMPLE: 1931098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	80-120	
Fluoride	mg/L	2.5	2.5	101	80-120	
Sulfate	mg/L	5	5.0	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1931099 1931100

Parameter	Units	60241272001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	20.7	10	10	31.1	31.2	103	105	80-120	0	15	
Fluoride	mg/L	0.36	2.5	2.5	3.0	3.0	105	106	80-120	1	15	
Sulfate	mg/L	215	250	250	466	466	101	101	80-120	0	15	

SAMPLE DUPLICATE: 1931101

Parameter	Units	60241272002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	16.6	16.4	1	15	
Fluoride	mg/L	ND	ND		15	
Sulfate	mg/L	540	537	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60241272

QC Batch: 471846 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60241272004, 60241272009

METHOD BLANK: 1931986 Matrix: Water
Associated Lab Samples: 60241272004, 60241272009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	0.50	04/07/17 08:23	

LABORATORY CONTROL SAMPLE: 1931987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1931988 1931989

Parameter	Units	60241272004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	263	100	100	366	367	102	103	80-120	0	15	

SAMPLE DUPLICATE: 1931990

Parameter	Units	60241272009 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	198	199	0	15	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: Burlington/25216066.17
Pace Project No.: 60241272

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.

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.

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

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.17
Pace Project No.: 60241272

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60241272001	MW-301		472895		
60241272002	MW-302		472895		
60241272003	MW-303		472895		
60241272004	MW-304		472895		
60241272005	MW-305		472895		
60241272006	MW-306		472895		
60241272007	MW-307		472895		
60241272008	MW-308		472895		
60241272009	MW-309		472895		
60241272010	MW-310		472895		
60241272011	MW-311		472895		
60241272001	MW-301	EPA 3010	472064	EPA 6010	472381
60241272002	MW-302	EPA 3010	472064	EPA 6010	472381
60241272003	MW-303	EPA 3010	472064	EPA 6010	472381
60241272004	MW-304	EPA 3010	472064	EPA 6010	472381
60241272005	MW-305	EPA 3010	472064	EPA 6010	472381
60241272006	MW-306	EPA 3010	472064	EPA 6010	472381
60241272007	MW-307	EPA 3010	472064	EPA 6010	472381
60241272008	MW-308	EPA 3010	472064	EPA 6010	472381
60241272009	MW-309	EPA 3010	472064	EPA 6010	472381
60241272010	MW-310	EPA 3010	472064	EPA 6010	472381
60241272011	MW-311	EPA 3010	472064	EPA 6010	472381
60241272012	FIELD BLANK	EPA 3010	472064	EPA 6010	472381
60241272001	MW-301	EPA 3010	472065	EPA 6020	472377
60241272002	MW-302	EPA 3010	472065	EPA 6020	472377
60241272003	MW-303	EPA 3010	472065	EPA 6020	472377
60241272004	MW-304	EPA 3010	472065	EPA 6020	472377
60241272005	MW-305	EPA 3010	472065	EPA 6020	472377
60241272006	MW-306	EPA 3010	472065	EPA 6020	472377
60241272007	MW-307	EPA 3010	472065	EPA 6020	472377
60241272008	MW-308	EPA 3010	472065	EPA 6020	472377
60241272009	MW-309	EPA 3010	472065	EPA 6020	472377
60241272010	MW-310	EPA 3010	472065	EPA 6020	472377
60241272011	MW-311	EPA 3010	472065	EPA 6020	472377
60241272012	FIELD BLANK	EPA 3010	472065	EPA 6020	472377
60241272001	MW-301	EPA 7470	471487	EPA 7470	471503
60241272002	MW-302	EPA 7470	471487	EPA 7470	471503
60241272003	MW-303	EPA 7470	471487	EPA 7470	471503
60241272004	MW-304	EPA 7470	471487	EPA 7470	471503
60241272005	MW-305	EPA 7470	471487	EPA 7470	471503
60241272006	MW-306	EPA 7470	471487	EPA 7470	471503
60241272007	MW-307	EPA 7470	471487	EPA 7470	471503
60241272008	MW-308	EPA 7470	471487	EPA 7470	471503
60241272009	MW-309	EPA 7470	471487	EPA 7470	471503
60241272010	MW-310	EPA 7470	471487	EPA 7470	471503
60241272011	MW-311	EPA 7470	471487	EPA 7470	471503
60241272012	FIELD BLANK	EPA 7470	471487	EPA 7470	471503

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.17
Pace Project No.: 60241272

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60241272001	**MW-301**	SM 2540C	471470		
60241272002	**MW-302**	SM 2540C	471470		
60241272003	**MW-303**	SM 2540C	471470		
60241272004	**MW-304**	SM 2540C	471470		
60241272005	**MW-305**	SM 2540C	471470		
60241272006	**MW-306**	SM 2540C	471470		
60241272007	**MW-307**	SM 2540C	471470		
60241272008	**MW-308**	SM 2540C	471470		
60241272009	**MW-309**	SM 2540C	471470		
60241272010	**MW-310**	SM 2540C	471470		
60241272011	**MW-311**	SM 2540C	471470		
60241272012	**FIELD BLANK**	SM 2540C	471470		
60241272001	**MW-301**	EPA 9040	472056		
60241272002	**MW-302**	EPA 9040	472056		
60241272003	**MW-303**	EPA 9040	472056		
60241272004	**MW-304**	EPA 9040	472056		
60241272005	**MW-305**	EPA 9040	472056		
60241272006	**MW-306**	EPA 9040	472056		
60241272007	**MW-307**	EPA 9040	472056		
60241272008	**MW-308**	EPA 9040	472056		
60241272009	**MW-309**	EPA 9040	472056		
60241272010	**MW-310**	EPA 9040	472056		
60241272011	**MW-311**	EPA 9040	472056		
60241272012	**FIELD BLANK**	EPA 9040	472056		
60241272001	**MW-301**	EPA 9056	471633		
60241272002	**MW-302**	EPA 9056	471633		
60241272003	**MW-303**	EPA 9056	471633		
60241272004	**MW-304**	EPA 9056	471633		
60241272004	**MW-304**	EPA 9056	471846		
60241272005	**MW-305**	EPA 9056	471633		
60241272006	**MW-306**	EPA 9056	471633		
60241272007	**MW-307**	EPA 9056	471633		
60241272008	**MW-308**	EPA 9056	471633		
60241272009	**MW-309**	EPA 9056	471633		
60241272009	**MW-309**	EPA 9056	471846		
60241272010	**MW-310**	EPA 9056	471633		
60241272011	**MW-311**	EPA 9056	471633		
60241272012	**FIELD BLANK**	EPA 9056	471633		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60241272

60241272

Client Name: SCS Engineers

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7861 3622 1712 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: (CF +1.5) T-266 / (CF +0.9) T-239 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 2.3 **Corr. Factor** (CF +1.5) CF +0.9 **Corrected** 3.8

Date and initials of person examining contents: JD 4/5/17

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 1545 ☐N/A	pH
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? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒Yes ☐No ☐N/A	
Cyanide water sample checks: ☒ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: JDS Date: 4.5.17

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

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:	25216066.17

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: N N N	6010 Total Metals: B-Ca-Li	6020 Total Metals *	7470 Total Hg	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60241272
1	MW-301	WT	G	xxx	xxx	4-3-17	1630		2	1		1						X	X	X	X	X	X		BP2U BP2N 01
2	MW-302	WT	G	xxx	xxx		1725		2	1		1						X	X	X	X	X	X		02
3	MW-303	WT	G	xxx	xxx		1625		2	1		1						X	X	X	X	X	X		03
4	MW-304	WT	G	xxx	xxx		1520		2	1		1						X	X	X	X	X	X		04
5	MW-305	WT	G	xxx	xxx		1920		2	1		1						X	X	X	X	X	X		05
6	MW-306	WT	G	xxx	xxx	4-4-17	0900		2	1		1						X	X	X	X	X	X		06
7	MW-307	WT	G	xxx	xxx		0955		2	1		1						X	X	X	X	X	X		07
8	MW-308	WT	G	xxx	xxx		1045		2	1		1						X	X	X	X	X	X		08
9	MW-309	WT	G	xxx	xxx		1130		2	1		1						X	X	X	X	X	X		09
10	MW-310	WT	G	xxx	xxx		1300		2	1		1						X	X	X	X	X	X		10
11	MW-311	WT	G	xxx	xxx		1230		2	1		1						X	X	X	X	X	X		11
12	FIELD BLANK	WT	G	xxx	xxx	4-3-17	1430		2	1		1						X	X	X	X	X	X		12

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Kyle Kramer	4-4-17	1545		4/5/17	0855	3.8	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: Kyle Kramer

DATE Signed (MM/DD/YY): 4-4-17

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

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

F-ALL-Q-020rev.07, 15-Feb-2007

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

April 26, 2017

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.17
Pace Project No.: 60241277

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 2017. 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,

Trudy Gipson

Trudy Gipson
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Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

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CERTIFICATIONS

Project: Burlington/25216066.17
Pace Project No.: 60241277

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60241277001	**MW-301**	Water	04/03/17 18:30	04/05/17 08:55
60241277002	**MW-302**	Water	04/03/17 17:25	04/05/17 08:55
60241277003	**MW-303**	Water	04/03/17 16:25	04/05/17 08:55
60241277004	**MW-304**	Water	04/03/17 15:20	04/05/17 08:55
60241277005	**MW-305**	Water	04/03/17 19:20	04/05/17 08:55
60241277006	**MW-306**	Water	04/04/17 09:00	04/05/17 08:55
60241277007	**MW-307**	Water	04/04/17 09:55	04/05/17 08:55
60241277008	**MW-308**	Water	04/04/17 10:45	04/05/17 08:55
60241277009	**MW-309**	Water	04/04/17 11:30	04/05/17 08:55
60241277010	**MW-310**	Water	04/04/17 13:00	04/05/17 08:55
60241277011	**MW-311**	Water	04/04/17 12:30	04/05/17 08:55
60241277012	**FIELD BLANK**	Water	04/03/17 19:30	04/05/17 08:55

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.17
Pace Project No.: 60241277

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60241277001	MW-301	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277002	MW-302	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277003	MW-303	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277004	MW-304	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277005	MW-305	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277006	MW-306	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277007	MW-307	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277008	MW-308	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277009	MW-309	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277010	MW-310	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277011	MW-311	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60241277012	FIELD BLANK	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-301 **Lab ID: 60241277001** Collected: 04/03/17 18:30 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.347 ± 0.410 (0.645) C:NA T:83%**	pCi/L	04/20/17 20:31	13982-63-3	
Radium-228	EPA 904.0	**0.817 ± 0.735 (1.52) C:76% T:73%**	pCi/L	04/23/17 16:47	15262-20-1	
Total Radium	Total Radium Calculation	**1.16 ± 1.15 (2.17)**	pCi/L	04/26/17 12:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-302 **Lab ID: 60241277002** Collected: 04/03/17 17:25 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.639 ± 0.618 (0.959) C:NA T:90%**	pCi/L	04/20/17 20:31	13982-63-3	
Radium-228	EPA 904.0	**0.494 ± 0.516 (1.08) C:84% T:76%**	pCi/L	04/23/17 16:47	15262-20-1	
Total Radium	Total Radium Calculation	**1.13 ± 1.13 (2.04)**	pCi/L	04/26/17 12:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-303 **Lab ID: 60241277003** Collected: 04/03/17 16:25 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.542 ± 0.545 (0.850) C:NA T:94%**	pCi/L	04/20/17 20:31	13982-63-3	
Radium-228	EPA 904.0	**0.990 ± 0.625 (1.22) C:80% T:88%**	pCi/L	04/23/17 16:47	15262-20-1	
Total Radium	Total Radium Calculation	**1.53 ± 1.17 (2.07)**	pCi/L	04/26/17 12:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-304 **Lab ID: 60241277004** Collected: 04/03/17 15:20 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.480 ± 0.449 (0.636) C:NA T:82%**	pCi/L	04/20/17 20:31	13982-63-3	
Radium-228	EPA 904.0	**0.262 ± 0.534 (1.17) C:78% T:79%**	pCi/L	04/23/17 16:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.742 ± 0.983 (1.81)**	pCi/L	04/26/17 12:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-305 **Lab ID: 60241277005** Collected: 04/03/17 19:20 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.128 ± 0.355 (0.689) C:NA T:90%**	pCi/L	04/20/17 20:31	13982-63-3	
Radium-228	EPA 904.0	**0.602 ± 0.496 (1.00) C:80% T:92%**	pCi/L	04/23/17 16:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.730 ± 0.851 (1.69)**	pCi/L	04/26/17 12:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-306 **Lab ID: 60241277006** Collected: 04/04/17 09:00 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.457 ± 0.560 (0.920) C:NA T:91%**	pCi/L	04/20/17 20:56	13982-63-3	
Radium-228	EPA 904.0	**0.731 ± 0.497 (0.941) C:79% T:83%**	pCi/L	04/23/17 18:22	15262-20-1	
Total Radium	Total Radium Calculation	**1.19 ± 1.06 (1.86)**	pCi/L	04/26/17 12:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-307 **Lab ID: 60241277007** Collected: 04/04/17 09:55 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**-0.156 ± 0.434 (1.02) C:NA T:79%**	pCi/L	04/20/17 20:56	13982-63-3	
Radium-228	EPA 904.0	**0.651 ± 0.475 (0.902) C:83% T:74%**	pCi/L	04/23/17 18:22	15262-20-1	
Total Radium	Total Radium Calculation	**0.651 ± 0.909 (1.92)**	pCi/L	04/26/17 12:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-308 **Lab ID: 60241277008** Collected: 04/04/17 10:45 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.213 ± 0.539 (1.00) C:NA T:78%**	pCi/L	04/20/17 20:56	13982-63-3	
Radium-228	EPA 904.0	**0.641 ± 0.574 (1.15) C:75% T:68%**	pCi/L	04/23/17 18:22	15262-20-1	
Total Radium	Total Radium Calculation	**0.854 ± 1.11 (2.15)**	pCi/L	04/26/17 12:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-309 **Lab ID: 60241277009** Collected: 04/04/17 11:30 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.573 ± 0.662 (1.08) C:NA T:82%**	pCi/L	04/20/17 20:56	13982-63-3	
Radium-228	EPA 904.0	**1.19 ± 0.615 (1.07) C:82% T:74%**	pCi/L	04/23/17 18:22	15262-20-1	
Total Radium	Total Radium Calculation	**1.76 ± 1.28 (2.15)**	pCi/L	04/26/17 12:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-310 **Lab ID: 60241277010** Collected: 04/04/17 13:00 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.175 ± 0.379 (0.700) C:NA T:95%**	pCi/L	04/20/17 20:56	13982-63-3	
Radium-228	EPA 904.0	**2.99 ± 0.839 (0.922) C:83% T:86%**	pCi/L	04/23/17 18:23	15262-20-1	
Total Radium	Total Radium Calculation	**3.17 ± 1.22 (1.62)**	pCi/L	04/26/17 12:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: MW-311 **Lab ID: 60241277011** Collected: 04/04/17 12:30 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.484 ± 0.380 (0.446) C:NA T:90%**	pCi/L	04/20/17 20:56	13982-63-3	
Radium-228	EPA 904.0	**0.641 ± 0.510 (1.01) C:86% T:74%**	pCi/L	04/23/17 18:23	15262-20-1	
Total Radium	Total Radium Calculation	**1.13 ± 0.890 (1.46)**	pCi/L	04/26/17 12:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

Sample: FIELD BLANK **Lab ID: 60241277012** Collected: 04/03/17 19:30 Received: 04/05/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.251 ± 0.461 (0.822) C:NA T:87%**	pCi/L	04/20/17 21:30	13982-63-3	
Radium-228	EPA 904.0	**0.261 ± 0.419 (0.909) C:83% T:71%**	pCi/L	04/23/17 16:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.512 ± 0.880 (1.73)**	pCi/L	04/26/17 12:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

QC Batch: 254785 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60241277001, 60241277002, 60241277003, 60241277004, 60241277005, 60241277006, 60241277007, 60241277008, 60241277009, 60241277010, 60241277011, 60241277012

METHOD BLANK: 1254914 Matrix: Water
Associated Lab Samples: 60241277001, 60241277002, 60241277003, 60241277004, 60241277005, 60241277006, 60241277007, 60241277008, 60241277009, 60241277010, 60241277011, 60241277012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.267 ± 0.410 (0.848) C:75% T:81%	pCi/L	04/23/17 16:47	

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 - RADIOCHEMISTRY

Project: Burlington/25216066.17
Pace Project No.: 60241277

QC Batch: 254784 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60241277001, 60241277002, 60241277003, 60241277004, 60241277005, 60241277006, 60241277007, 60241277008, 60241277009, 60241277010, 60241277011, 60241277012

METHOD BLANK: 1254913 Matrix: Water
Associated Lab Samples: 60241277001, 60241277002, 60241277003, 60241277004, 60241277005, 60241277006, 60241277007, 60241277008, 60241277009, 60241277010, 60241277011, 60241277012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.340 ± 0.518 (0.891) C:NA T:86%	pCi/L	04/20/17 20:31	

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

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QUALIFIERS

Project: Burlington/25216066.17
Pace Project No.: 60241277

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.

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.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.17
Pace Project No.: 60241277

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60241277001	**MW-301**	EPA 903.1	254784		
60241277002	**MW-302**	EPA 903.1	254784		
60241277003	**MW-303**	EPA 903.1	254784		
60241277004	**MW-304**	EPA 903.1	254784		
60241277005	**MW-305**	EPA 903.1	254784		
60241277006	**MW-306**	EPA 903.1	254784		
60241277007	**MW-307**	EPA 903.1	254784		
60241277008	**MW-308**	EPA 903.1	254784		
60241277009	**MW-309**	EPA 903.1	254784		
60241277010	**MW-310**	EPA 903.1	254784		
60241277011	**MW-311**	EPA 903.1	254784		
60241277012	**FIELD BLANK**	EPA 903.1	254784		
60241277001	**MW-301**	EPA 904.0	254785		
60241277002	**MW-302**	EPA 904.0	254785		
60241277003	**MW-303**	EPA 904.0	254785		
60241277004	**MW-304**	EPA 904.0	254785		
60241277005	**MW-305**	EPA 904.0	254785		
60241277006	**MW-306**	EPA 904.0	254785		
60241277007	**MW-307**	EPA 904.0	254785		
60241277008	**MW-308**	EPA 904.0	254785		
60241277009	**MW-309**	EPA 904.0	254785		
60241277010	**MW-310**	EPA 904.0	254785		
60241277011	**MW-311**	EPA 904.0	254785		
60241277012	**FIELD BLANK**	EPA 904.0	254785		
60241277001	**MW-301**	Total Radium Calculation	256494		
60241277002	**MW-302**	Total Radium Calculation	256494		
60241277003	**MW-303**	Total Radium Calculation	256494		
60241277004	**MW-304**	Total Radium Calculation	256494		
60241277005	**MW-305**	Total Radium Calculation	256494		
60241277006	**MW-306**	Total Radium Calculation	256494		
60241277007	**MW-307**	Total Radium Calculation	256494		
60241277008	**MW-308**	Total Radium Calculation	256494		
60241277009	**MW-309**	Total Radium Calculation	256494		
60241277010	**MW-310**	Total Radium Calculation	256494		
60241277011	**MW-311**	Total Radium Calculation	256494		
60241277012	**FIELD BLANK**	Total Radium Calculation	256494		

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Sample Condition Upon Receipt

WO#: 60241277

60241277

TDG

Client Name: SCS Engineers

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7861 3622 1712 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-266~~ (CF +1.5) / T-239 (CF +0.9) **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 0.6 2.5 **Corr. Factor** (CF +1.5) (CF +0.9) **Corrected** 2.1 4.0

Date and initials of person examining contents: JB 4/5/17

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	
Cyanide water sample checks: ☒N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: DJS Date: 4-5-17

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical
www.pacelabs.com

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:	25216066.17

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

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	903.1 Radium-226	904.0 Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-301	WT	G	xxx	xxx	4-3-17	1830		2			2						X	X	X		(2) BP1N 2.0
2	MW-302	WT	G	xxx	xxx	4-3-17	1725		2			2						X	X	X		
3	MW-303	WT	G	xxx	xxx	4-3-17	1625		2			2						X	X	X		
4	MW-304	WT	G	xxx	xxx	4-3-17	1520		2			2						X	X	X		
5	MW-305	WT	G	xxx	xxx	4-3-17	1920		2			2						X	X	X		
6	MW-306	WT	G	xxx	xxx	4-4-17	0900		2			2						X	X	X		
7	MW-307	WT	G	xxx	xxx		0955		2			2						X	X	X		
8	MW-308	WT	G	xxx	xxx		1045		2			2						X	X	X		
9	MW-309	WT	G	xxx	xxx		1130		2			2						X	X	X		
10	MW-310	WT	G	xxx	xxx		1300		2			2						X	X	X		
11	MW-311	WT	G	xxx	xxx	↓	1230		2			2						X	X	X		
12	FIELD BLANK	WT	G	xxx	xxx	4-3-17	1930		2			2						X	X	X		

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219		4-4-17	1545		4/5/17	0955

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: Kyle Kramer

DATE Signed (MM/DD/YY): 4-4-17

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

Chain of Custody

WO#:30215337

Pace Analytical®
www.pacelabs.com

Workorder: 60241277 **Workorder Name:** Burlington/25216066.17 **Owner Received Date:** 4/5/2017 **Results Requested By:** 4/28/2017

Report To	Subcontract To
Trudy Gipson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 1(913)563-1405	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis 903.1 Radium-226	904.0 Radium-228	Total Radium										LAB USE ONLY
1	MW-301	PS	4/3/2017 18:30	60241277001	Water	2						X	X	X										001
2	MW-302	PS	4/3/2017 17:25	60241277002	Water	2						X	X	X										002
3	MW-303	PS	4/3/2017 16:25	60241277003	Water	2						X	X	X										003
4	MW-304	PS	4/3/2017 15:20	60241277004	Water	2						X	X	X										004
5	MW-305	PS	4/3/2017 19:20	60241277005	Water	2						X	X	X										005
6	MW-306	PS	4/4/2017 09:00	60241277006	Water	2						X	X	X										006
7	MW-307	PS	4/4/2017 09:55	60241277007	Water	2						X	X	X										007
8	MW-308	PS	4/4/2017 10:45	60241277008	Water	2						X	X	X										008
9	MW-309	PS	4/4/2017 11:30	60241277009	Water	2						X	X	X										009
10	MW-310	PS	4/4/2017 13:00	60241277010	Water	2						X	X	X										010
11	MW-311	PS	4/4/2017 12:30	60241277011	Water	2						X	X	X										011
12	FIELD BLANK	PS	4/3/2017 19:30	60241277012	Water	2						X	X	X										012

Transfers	Released By	Date/Time	Received	Date/Time
1	[signature]	4/5/17 1700	[signature]	4-6-17 1000
2				
3				

Comments

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

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

RTB

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace KS

Project # 30215337

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

Tracking #: 7285 6591 2788

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

Thermometer Used N/A **Type of Ice:** Wet Blue None

Cooler Temperature **Observed Temp** N/A °C Correction Factor: _____ °C Final Temp: _____ °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ML 4-6-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered		X		12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15. pH < 2
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ML Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: ML Date: 4-6-17

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

A7 Round 7 Background Sampling, Analytical Laboratory Report

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

July 25, 2017

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.00
Pace Project No.: 60246398

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on June 14, 2017. 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.

Amended Report, Revision 1 on 7/25/17, Field Data

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

Sincerely,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
1(913)563-1405
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: Burlington/25216066.00
Pace Project No.: 60246398

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60246398001	**MW-301**	Water	06/12/17 19:15	06/14/17 08:55
60246398002	**MW-302**	Water	06/12/17 17:50	06/14/17 08:55
60246398003	**MW-303**	Water	06/12/17 16:55	06/14/17 08:55
60246398004	**MW-304**	Water	06/12/17 16:15	06/14/17 08:55
60246398005	**MW-305**	Water	06/13/17 13:10	06/14/17 08:55
60246398006	**MW-306**	Water	06/13/17 12:30	06/14/17 08:55
60246398007	**MW-307**	Water	06/13/17 11:30	06/14/17 08:55
60246398008	**MW-308**	Water	06/13/17 10:35	06/14/17 08:55
60246398009	**MW-309**	Water	06/13/17 09:55	06/14/17 08:55
60246398010	**MW-310**	Water	06/12/17 20:10	06/14/17 08:55
60246398011	**MW-311**	Water	06/12/17 20:45	06/14/17 08:55
60246398012	**FIELD BLANK**	Water	06/13/17 11:00	06/14/17 08:55

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Lenexa, KS 66219
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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60246398

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60246398001	**MW-301**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398002	**MW-302**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398003	**MW-303**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398004	**MW-304**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398005	**MW-305**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398006	**MW-306**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398007	**MW-307**	EPA 6010	SMW	3	PASI-K

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60246398

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398008	**MW-308**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398009	**MW-309**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398010	**MW-310**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398011	**MW-311**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K
60246398012	**FIELD BLANK**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	JRS	1	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 9040	JSS	1	PASI-K
		EPA 9056	RAD	3	PASI-K

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-301 **Lab ID: 60246398001** Collected: 06/12/17 19:15 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/12/17 19:15		
Field pH	**7.36**	Std. Units	0.10	0.050	1		06/12/17 19:15		
Field Temperature	**13.00**	deg C	0.50	0.25	1		06/12/17 19:15		
Field Specific Conductance	**859.0**	umhos/cm	1.0	1.0	1		06/12/17 19:15		
Field Oxidation Potential	**-89.6**	mV			1		06/12/17 19:15		
Oxygen, Dissolved	**0.17**	mg/L			1		06/12/17 19:15	7782-44-7	
Turbidity	**2.02**	NTU	1.0	1.0	1		06/12/17 19:15		
Groundwater Elevation	**523.21**	feet			1		06/12/17 19:15		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**10500**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 12:39	7440-42-8	
Calcium	**156**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 12:39	7440-70-2	
Lithium	**29.4**	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 12:39	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 18:21	7440-36-0	
Arsenic	**33.4**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 18:21	7440-38-2	
Barium	**380**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 18:21	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 18:21	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 18:21	7440-43-9	
Chromium	**0.17J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 18:21	7440-47-3	
Cobalt	**0.16J**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 18:21	7440-48-4	
Lead	**0.12J**	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 18:21	7439-92-1	B
Molybdenum	**116**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 18:21	7439-98-7	
Selenium	**0.10J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 18:21	7782-49-2	
Thallium	**0.080J**	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 18:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 11:57	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**960**	mg/L	5.0	5.0	1		06/15/17 08:24		
9040 pH	Analytical Method: EPA 9040								
pH	**6.9**	Std. Units	0.10	0.10	1		06/14/17 13:49		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.5**	mg/L	2.0	1.0	2		06/19/17 19:44	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.10	1		06/19/17 19:11	16984-48-8	
Sulfate	**511**	mg/L	50.0	25.0	50		06/20/17 10:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-302 **Lab ID: 60246398002** Collected: 06/12/17 17:50 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/12/17 17:50		
Field pH	**8.06**	Std. Units	0.10	0.050	1		06/12/17 17:50		
Field Temperature	**12.94**	deg C	0.50	0.25	1		06/12/17 17:50		
Field Specific Conductance	**833.0**	umhos/cm	1.0	1.0	1		06/12/17 17:50		
Field Oxidation Potential	**-154.4**	mV			1		06/12/17 17:50		
Oxygen, Dissolved	**0.13**	mg/L			1		06/12/17 17:50	7782-44-7	
Turbidity	**0.59**	NTU	1.0	1.0	1		06/12/17 17:50		
Groundwater Elevation	**522.84**	feet			1		06/12/17 17:50		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**10700**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 12:42	7440-42-8	
Calcium	**216**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 12:42	7440-70-2	M1
Lithium	**60.7**	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 12:42	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.040J**	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 18:34	7440-36-0	
Arsenic	**72.0**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 18:34	7440-38-2	
Barium	**370**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 18:34	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 18:34	7440-41-7	
Cadmium	**0.021J**	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 18:34	7440-43-9	
Chromium	**0.11J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 18:34	7440-47-3	
Cobalt	**0.24J**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 18:34	7440-48-4	
Lead	**0.064J**	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 18:34	7439-92-1	B
Molybdenum	**131**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 18:34	7439-98-7	
Selenium	**0.23J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 18:34	7782-49-2	
Thallium	**0.078J**	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 18:34	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 11:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**937**	mg/L	5.0	5.0	1		06/15/17 08:25		
9040 pH	Analytical Method: EPA 9040								
pH	**7.6**	Std. Units	0.10	0.10	1		06/14/17 13:48		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.0**	mg/L	1.0	0.50	1		06/19/17 20:49	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		06/19/17 20:49	16984-48-8	
Sulfate	**552**	mg/L	50.0	25.0	50		06/19/17 21:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-303 **Lab ID: 60246398003** Collected: 06/12/17 16:55 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/12/17 16:55		
Field pH	**7.24**	Std. Units	0.10	0.050	1		06/12/17 16:55		
Field Temperature	**14.2**	deg C	0.50	0.25	1		06/12/17 16:55		
Field Specific Conductance	**599.8**	umhos/cm	1.0	1.0	1		06/12/17 16:55		
Field Oxidation Potential	**-102.9**	mV			1		06/12/17 16:55		
Oxygen, Dissolved	**0.20**	mg/L			1		06/12/17 16:55	7782-44-7	
Turbidity	**2.57**	NTU	1.0	1.0	1		06/12/17 16:55		
Groundwater Elevation	**522.80**	feet			1		06/12/17 16:55		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**26600**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 12:48	7440-42-8	
Calcium	**105**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 12:48	7440-70-2	
Lithium	**26.2**	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 12:48	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 18:38	7440-36-0	
Arsenic	**48.1**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 18:38	7440-38-2	
Barium	**386**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 18:38	7440-39-3	
Beryllium	**0.018J**	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 18:38	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 18:38	7440-43-9	
Chromium	**0.43J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 18:38	7440-47-3	
Cobalt	**0.68J**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 18:38	7440-48-4	
Lead	ND	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 18:38	7439-92-1	
Molybdenum	**33.8**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 18:38	7439-98-7	
Selenium	**0.30J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 18:38	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 18:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:01	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**557**	mg/L	5.0	5.0	1		06/15/17 08:25		
9040 pH	Analytical Method: EPA 9040								
pH	**6.9**	Std. Units	0.10	0.10	1		06/14/17 13:46		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**17.3**	mg/L	1.0	0.50	1		06/19/17 21:21	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.10	1		06/19/17 21:21	16984-48-8	
Sulfate	**3.9**	mg/L	1.0	0.50	1		06/19/17 21:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-304 **Lab ID: 60246398004** Collected: 06/12/17 16:15 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/12/17 16:15		
Field pH	**7.93**	Std. Units	0.10	0.050	1		06/12/17 16:15		
Field Temperature	**14.3**	deg C	0.50	0.25	1		06/12/17 16:15		
Field Specific Conductance	**512.5**	umhos/cm	1.0	1.0	1		06/12/17 16:15		
Field Oxidation Potential	**-160.6**	mV			1		06/12/17 16:15		
Oxygen, Dissolved	**0.17**	mg/L			1		06/12/17 16:15	7782-44-7	
Turbidity	**0.23**	NTU	1.0	1.0	1		06/12/17 16:15		
Groundwater Elevation	**522.90**	feet			1		06/12/17 16:15		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5160**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 12:50	7440-42-8	
Calcium	**90.1**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 12:50	7440-70-2	
Lithium	**44.1**	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 12:50	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.51J**	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 18:42	7440-36-0	
Arsenic	**58.4**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 18:42	7440-38-2	
Barium	**126**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 18:42	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 18:42	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 18:42	7440-43-9	
Chromium	**0.087J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 18:42	7440-47-3	
Cobalt	**0.11J**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 18:42	7440-48-4	
Lead	ND	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 18:42	7439-92-1	
Molybdenum	**67.4**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 18:42	7439-98-7	
Selenium	**0.19J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 18:42	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 18:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:05	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**519**	mg/L	5.0	5.0	1		06/15/17 08:26		
9040 pH	Analytical Method: EPA 9040								
pH	**7.9**	Std. Units	0.10	0.10	1		06/14/17 13:44		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**35.2**	mg/L	5.0	2.5	5		06/19/17 22:42	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		06/19/17 22:26	16984-48-8	
Sulfate	**211**	mg/L	20.0	10.0	20		06/19/17 22:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-305 **Lab ID: 60246398005** Collected: 06/13/17 13:10 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/13/17 13:10		
Field pH	**7.74**	Std. Units	0.10	0.050	1		06/13/17 13:10		
Field Temperature	**15.5**	deg C	0.50	0.25	1		06/13/17 13:10		
Field Specific Conductance	**624.0**	umhos/cm	1.0	1.0	1		06/13/17 13:10		
Field Oxidation Potential	**-80.8**	mV			1		06/13/17 13:10		
Oxygen, Dissolved	**0.09**	mg/L			1		06/13/17 13:10	7782-44-7	
Turbidity	**0.89**	NTU	1.0	1.0	1		06/13/17 13:10		
Groundwater Elevation	**522.78**	feet			1		06/13/17 13:10		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2180**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 12:53	7440-42-8	
Calcium	**96.3**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 12:53	7440-70-2	
Lithium	**26.0**	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 12:53	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 18:46	7440-36-0	
Arsenic	**0.22J**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 18:46	7440-38-2	
Barium	**231**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 18:46	7440-39-3	
Beryllium	**0.013J**	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 18:46	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 18:46	7440-43-9	
Chromium	**0.27J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 18:46	7440-47-3	
Cobalt	**0.20J**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 18:46	7440-48-4	
Lead	**0.11J**	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 18:46	7439-92-1	B
Molybdenum	**1.1**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 18:46	7439-98-7	
Selenium	ND	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 18:46	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 18:46	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:07	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**532**	mg/L	5.0	5.0	1		06/15/17 08:26		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		06/19/17 12:09		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**37.0**	mg/L	2.0	1.0	2		06/19/17 23:31	16887-00-6	
Fluoride	**0.43**	mg/L	0.20	0.10	1		06/19/17 23:14	16984-48-8	
Sulfate	**35.0**	mg/L	2.0	1.0	2		06/19/17 23:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-306 **Lab ID: 60246398006** Collected: 06/13/17 12:30 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/13/17 12:30		
Field pH	**11.25**	Std. Units	0.10	0.050	1		06/13/17 12:30		
Field Temperature	**15.8**	deg C	0.50	0.25	1		06/13/17 12:30		
Field Specific Conductance	**331.7**	umhos/cm	1.0	1.0	1		06/13/17 12:30		
Field Oxidation Potential	**-151.0**	mV			1		06/13/17 12:30		
Oxygen, Dissolved	**0.22**	mg/L			1		06/13/17 12:30	7782-44-7	
Turbidity	**0.81**	NTU	1.0	1.0	1		06/13/17 12:30		
Groundwater Elevation	**522.87**	feet			1		06/13/17 12:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3350**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 12:55	7440-42-8	
Calcium	**34.5**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 12:55	7440-70-2	
Lithium	**41.4**	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 12:55	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.4**	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 18:50	7440-36-0	
Arsenic	**48.1**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 18:50	7440-38-2	
Barium	**14.1**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 18:50	7440-39-3	
Beryllium	**0.054J**	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 18:50	7440-41-7	
Cadmium	**0.036J**	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 18:50	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 18:50	7440-47-3	
Cobalt	**0.046J**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 18:50	7440-48-4	
Lead	**0.25J**	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 18:50	7439-92-1	B
Molybdenum	**80.4**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 18:50	7439-98-7	
Selenium	**0.74J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 18:50	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 18:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:10	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**305**	mg/L	5.0	5.0	1		06/15/17 08:27		
9040 pH	Analytical Method: EPA 9040								
pH	**10.2**	Std. Units	0.10	0.10	1		06/14/17 14:01		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.6**	mg/L	2.0	1.0	2		06/20/17 00:03	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		06/19/17 23:47	16984-48-8	
Sulfate	**126**	mg/L	10.0	5.0	10		06/20/17 00:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-307 **Lab ID: 60246398007** Collected: 06/13/17 11:30 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/13/17 11:30		
Field pH	**10.74**	Std. Units	0.10	0.050	1		06/13/17 11:30		
Field Temperature	**14.9**	deg C	0.50	0.25	1		06/13/17 11:30		
Field Specific Conductance	**368.3**	umhos/cm	1.0	1.0	1		06/13/17 11:30		
Field Oxidation Potential	**-177.1**	mV			1		06/13/17 11:30		
Oxygen, Dissolved	**0.12**	mg/L			1		06/13/17 11:30	7782-44-7	
Turbidity	**3.11**	NTU	1.0	1.0	1		06/13/17 11:30		
Groundwater Elevation	**523.17**	feet			1		06/13/17 11:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3740**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 13:02	7440-42-8	
Calcium	**28.1**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 13:02	7440-70-2	
Lithium	**42.2**	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 13:02	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.48J**	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 19:07	7440-36-0	
Arsenic	**55.8**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 19:07	7440-38-2	
Barium	**33.0**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 19:07	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 19:07	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 19:07	7440-43-9	
Chromium	**0.24J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 19:07	7440-47-3	
Cobalt	**0.042J**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 19:07	7440-48-4	
Lead	**0.43J**	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 19:07	7439-92-1	
Molybdenum	**155**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 19:07	7439-98-7	
Selenium	**0.46J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 19:07	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 19:07	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:12	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**353**	mg/L	5.0	5.0	1		06/15/17 08:27		
9040 pH	Analytical Method: EPA 9040								
pH	**9.8**	Std. Units	0.10	0.10	1		06/14/17 13:59		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.3**	mg/L	2.0	1.0	2		06/20/17 00:35	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		06/20/17 01:40	16984-48-8	
Sulfate	**136**	mg/L	10.0	5.0	10		06/20/17 00:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-308 **Lab ID: 60246398008** Collected: 06/13/17 10:35 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**BLG**				1		06/13/17 10:35		
Field pH	**9.99**	Std. Units	0.10	0.050	1		06/13/17 10:35		
Field Temperature	**14.9**	deg C	0.50	0.25	1		06/13/17 10:35		
Field Specific Conductance	**514.6**	umhos/cm	1.0	1.0	1		06/13/17 10:35		
Field Oxidation Potential	**-162.3**	mV			1		06/13/17 10:35		
Oxygen, Dissolved	**0.20**	mg/L			1		06/13/17 10:35	7782-44-7	
Turbidity	**1.56**	NTU	1.0	1.0	1		06/13/17 10:35		
Groundwater Elevation	**522.90**	feet			1		06/13/17 10:35		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4680**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 13:04	7440-42-8	
Calcium	**30.1**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 13:04	7440-70-2	
Lithium	**42.4**	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 13:04	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.32J**	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 19:11	7440-36-0	
Arsenic	**80.3**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 19:11	7440-38-2	
Barium	**81.5**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 19:11	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 19:11	7440-41-7	
Cadmium	**0.035J**	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 19:11	7440-43-9	
Chromium	**0.16J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 19:11	7440-47-3	
Cobalt	**0.068J**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 19:11	7440-48-4	
Lead	**0.34J**	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 19:11	7439-92-1	B
Molybdenum	**136**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 19:11	7439-98-7	
Selenium	**0.30J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 19:11	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 19:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:18	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**501**	mg/L	5.0	5.0	1		06/15/17 08:27		
9040 pH	Analytical Method: EPA 9040								
pH	**9.5**	Std. Units	0.10	0.10	1		06/14/17 13:55		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**40.6**	mg/L	5.0	2.5	5		06/20/17 02:13	16887-00-6	
Fluoride	**0.12J**	mg/L	0.20	0.10	1		06/20/17 01:56	16984-48-8	
Sulfate	**188**	mg/L	20.0	10.0	20		06/20/17 02:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-309 **Lab ID: 60246398009** Collected: 06/13/17 09:55 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/13/17 09:55		
Field pH	**7.10**	Std. Units	0.10	0.050	1		06/13/17 09:55		
Field Temperature	**14.2**	deg C	0.50	0.25	1		06/13/17 09:55		
Field Specific Conductance	**936.0**	umhos/cm	1.0	1.0	1		06/13/17 09:55		
Field Oxidation Potential	**-60.7**	mV			1		06/13/17 09:55		
Oxygen, Dissolved	**0.15**	mg/L			1		06/13/17 09:55	7782-44-7	
Turbidity	**4.62**	NTU	1.0	1.0	1		06/13/17 09:55		
Groundwater Elevation	**522.91**	feet			1		06/13/17 09:55		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4070**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 13:06	7440-42-8	
Calcium	**118**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 13:06	7440-70-2	
Lithium	ND	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 13:06	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.030J**	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 19:15	7440-36-0	
Arsenic	**36.2**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 19:15	7440-38-2	
Barium	**256**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 19:15	7440-39-3	
Beryllium	**0.012J**	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 19:15	7440-41-7	
Cadmium	**0.021J**	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 19:15	7440-43-9	
Chromium	**0.18J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 19:15	7440-47-3	
Cobalt	**2.9**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 19:15	7440-48-4	
Lead	**0.12J**	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 19:15	7439-92-1	B
Molybdenum	**60.8**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 19:15	7439-98-7	
Selenium	**0.35J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 19:15	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 19:15	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:21	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**841**	mg/L	5.0	5.0	1		06/15/17 08:27		
9040 pH	Analytical Method: EPA 9040								
pH	**6.9**	Std. Units	0.10	0.10	1		06/14/17 13:54		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**89.5**	mg/L	10.0	5.0	10		06/20/17 03:01	16887-00-6	
Fluoride	**0.50**	mg/L	0.20	0.10	1		06/20/17 02:45	16984-48-8	
Sulfate	**171**	mg/L	10.0	5.0	10		06/20/17 03:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-310 **Lab ID: 60246398010** Collected: 06/12/17 20:10 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/12/17 20:10		
Field pH	**7.30**	Std. Units	0.10	0.050	1		06/12/17 20:10		
Field Temperature	**13.5**	deg C	0.50	0.25	1		06/12/17 20:10		
Field Specific Conductance	**742.0**	umhos/cm	1.0	1.0	1		06/12/17 20:10		
Field Oxidation Potential	**-101.1**	mV			1		06/12/17 20:10		
Oxygen, Dissolved	**0.13**	mg/L			1		06/12/17 20:10	7782-44-7	
Turbidity	**2.55**	NTU	1.0	1.0	1		06/12/17 20:10		
Groundwater Elevation	**524.94**	feet			1		06/12/17 20:10		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2210**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 13:09	7440-42-8	
Calcium	**116**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 13:09	7440-70-2	
Lithium	ND	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 13:09	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.048J**	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 19:19	7440-36-0	
Arsenic	**64.0**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 19:19	7440-38-2	
Barium	**586**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 19:19	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 19:19	7440-41-7	
Cadmium	**0.025J**	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 19:19	7440-43-9	
Chromium	**0.20J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 19:19	7440-47-3	
Cobalt	**1.4**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 19:19	7440-48-4	
Lead	**0.081J**	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 19:19	7439-92-1	B
Molybdenum	**10**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 19:19	7439-98-7	
Selenium	**0.18J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 19:19	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 19:19	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:23	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**625**	mg/L	5.0	5.0	1		06/15/17 08:26		
9040 pH	Analytical Method: EPA 9040								
pH	**6.9**	Std. Units	0.10	0.10	1		06/14/17 13:50		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**94.7**	mg/L	5.0	2.5	5		06/20/17 03:50	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.10	1		06/20/17 03:34	16984-48-8	
Sulfate	**101**	mg/L	20.0	10.0	20		06/20/17 04:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: MW-311 **Lab ID: 60246398011** Collected: 06/12/17 20:45 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		06/12/17 20:45		
Field pH	**7.30**	Std. Units	0.10	0.050	1		06/12/17 20:45		
Field Temperature	**12.5**	deg C	0.50	0.25	1		06/12/17 20:45		
Field Specific Conductance	**865.0**	umhos/cm	1.0	1.0	1		06/12/17 20:45		
Field Oxidation Potential	**-102.5**	mV			1		06/12/17 20:45		
Oxygen, Dissolved	**0.21**	mg/L			1		06/12/17 20:45	7782-44-7	
Turbidity	**4.12**	NTU	1.0	1.0	1		06/12/17 20:45		
Groundwater Elevation	**523.55**	feet			1		06/12/17 20:45		
6010 MET ICP	Analytical Method: EPA 6010		Preparation Method: EPA 3010						
Boron	**2130**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 13:11	7440-42-8	
Calcium	**158**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 13:11	7440-70-2	
Lithium	ND	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 13:11	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020		Preparation Method: EPA 3010						
Antimony	**0.030J**	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 19:23	7440-36-0	
Arsenic	**15.2**	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 19:23	7440-38-2	
Barium	**248**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 19:23	7440-39-3	
Beryllium	**0.013J**	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 19:23	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 19:23	7440-43-9	
Chromium	**0.14J**	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 19:23	7440-47-3	
Cobalt	**0.35J**	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 19:23	7440-48-4	
Lead	**0.32J**	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 19:23	7439-92-1	B
Molybdenum	**11.2**	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 19:23	7439-98-7	
Selenium	**0.19J**	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 19:23	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 19:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470		Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:25	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**803**	mg/L	5.0	5.0	1		06/15/17 08:26		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		06/14/17 13:51		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**81.1**	mg/L	5.0	2.5	5		06/20/17 05:11	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.10	1		06/20/17 04:55	16984-48-8	
Sulfate	**173**	mg/L	20.0	10.0	20		06/20/17 05:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.00
Pace Project No.: 60246398

Sample: FIELD BLANK **Lab ID: 60246398012** Collected: 06/13/17 11:00 Received: 06/14/17 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**17.3J**	ug/L	100	3.5	1	06/16/17 16:55	06/21/17 13:13	7440-42-8	
Calcium	**0.038J**	mg/L	0.10	0.036	1	06/16/17 16:55	06/21/17 13:13	7440-70-2	
Lithium	ND	ug/L	10.0	2.9	1	06/16/17 16:55	06/21/17 13:13	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	ND	ug/L	1.0	0.026	1	06/16/17 16:55	06/22/17 19:02	7440-36-0	
Arsenic	ND	ug/L	1.0	0.052	1	06/16/17 16:55	06/22/17 19:02	7440-38-2	
Barium	**0.12J**	ug/L	1.0	0.095	1	06/16/17 16:55	06/22/17 19:02	7440-39-3	B
Beryllium	ND	ug/L	0.50	0.012	1	06/16/17 16:55	06/22/17 19:02	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	06/16/17 16:55	06/22/17 19:02	7440-43-9	
Chromium	ND	ug/L	1.0	0.054	1	06/16/17 16:55	06/22/17 19:02	7440-47-3	
Cobalt	ND	ug/L	1.0	0.014	1	06/16/17 16:55	06/22/17 19:02	7440-48-4	
Lead	ND	ug/L	1.0	0.033	1	06/16/17 16:55	06/22/17 19:02	7439-92-1	
Molybdenum	ND	ug/L	1.0	0.058	1	06/16/17 16:55	06/22/17 19:02	7439-98-7	
Selenium	ND	ug/L	1.0	0.086	1	06/16/17 16:55	06/22/17 19:02	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	06/16/17 16:55	06/22/17 19:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	06/21/17 16:42	06/22/17 12:32	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	5.0	5.0	1		06/16/17 10:26		
9040 pH	Analytical Method: EPA 9040								
pH	**7.8**	Std. Units	0.10	0.10	1		06/14/17 13:57		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	ND	mg/L	1.0	0.50	1		06/20/17 10:36	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		06/20/17 10:36	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		06/20/17 10:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481961 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011

METHOD BLANK: 1974124 Matrix: Water
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.046	06/22/17 11:24	

LABORATORY CONTROL SAMPLE: 1974125

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1974126 1974127

Parameter	Units	60246392001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.1	5.0	102	99	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481965 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60246398012

METHOD BLANK: 1974135 Matrix: Water
Associated Lab Samples: 60246398012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.046	06/22/17 12:27	

LABORATORY CONTROL SAMPLE: 1974136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1974137 1974138

Parameter	Units	60246452003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.4	4.1	87	82	75-125	6	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481436 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011, 60246398012

METHOD BLANK: 1972168 Matrix: Water
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011, 60246398012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	3.5	06/21/17 12:35	
Calcium	mg/L	ND	0.10	0.036	06/21/17 12:35	
Lithium	ug/L	ND	10.0	2.9	06/21/17 12:35	

LABORATORY CONTROL SAMPLE: 1972169

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	953	95	80-120	
Calcium	mg/L	10	9.7	97	80-120	
Lithium	ug/L	1000	1050	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1972170 1972171

Parameter	Units	60246398002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	10700	1000	1000	11600	11500	89	79	75-125	1	20	
Calcium	mg/L	216	10	10	222	218	58	20	75-125	2	20	M1
Lithium	ug/L	60.7	1000	1000	1180	1160	112	110	75-125	2	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481434 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011, 60246398012

METHOD BLANK: 1972164 Matrix: Water
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011, 60246398012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.026	06/22/17 18:13	
Arsenic	ug/L	ND	1.0	0.052	06/22/17 18:13	
Barium	ug/L	0.11J	1.0	0.095	06/22/17 18:13	
Beryllium	ug/L	ND	0.50	0.012	06/22/17 18:13	
Cadmium	ug/L	ND	0.50	0.018	06/22/17 18:13	
Chromium	ug/L	ND	1.0	0.054	06/22/17 18:13	
Cobalt	ug/L	ND	1.0	0.014	06/22/17 18:13	
Lead	ug/L	0.036J	1.0	0.033	06/22/17 18:13	
Molybdenum	ug/L	ND	1.0	0.058	06/22/17 18:13	
Selenium	ug/L	ND	1.0	0.086	06/22/17 18:13	
Thallium	ug/L	ND	1.0	0.036	06/22/17 18:13	

LABORATORY CONTROL SAMPLE: 1972165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.6	99	80-120	
Arsenic	ug/L	40	39.7	99	80-120	
Barium	ug/L	40	39.5	99	80-120	
Beryllium	ug/L	40	39.9	100	80-120	
Cadmium	ug/L	40	38.9	97	80-120	
Chromium	ug/L	40	40.5	101	80-120	
Cobalt	ug/L	40	39.6	99	80-120	
Lead	ug/L	40	39.5	99	80-120	
Molybdenum	ug/L	40	41.6	104	80-120	
Selenium	ug/L	40	38.3	96	80-120	
Thallium	ug/L	40	37.7	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1972166 1972167

Parameter	Units	60246398001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	39.1	39.0	98	97	75-125	0	20	
Arsenic	ug/L	33.4	40	40	71.1	71.9	94	96	75-125	1	20	
Barium	ug/L	380	40	40	426	427	114	116	75-125	0	20	
Beryllium	ug/L	ND	40	40	36.2	35.2	90	88	75-125	3	20	
Cadmium	ug/L	ND	40	40	35.9	35.8	90	90	75-125	0	20	
Chromium	ug/L	0.17J	40	40	39.6	38.8	99	97	75-125	2	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1972166 1972167

Parameter	Units	60246398001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	0.16J	40	40	37.5	37.4	93	93	75-125	0	20	
Lead	ug/L	0.12J	40	40	37.3	37.3	93	93	75-125	0	20	
Molybdenum	ug/L	116	40	40	160	160	112	110	75-125	1	20	
Selenium	ug/L	0.10J	40	40	35.4	36.2	88	90	75-125	2	20	
Thallium	ug/L	0.080J	40	40	36.5	36.7	91	91	75-125	0	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481025 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011

METHOD BLANK: 1970344 Matrix: Water
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	06/15/17 08:19	

LABORATORY CONTROL SAMPLE: 1970345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	952	95	80-120	

SAMPLE DUPLICATE: 1970346

Parameter	Units	60246392001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	469	465	1	10	

SAMPLE DUPLICATE: 1970347

Parameter	Units	60246398001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	960	955	1	10	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481231 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60246398012

METHOD BLANK: 1971278 Matrix: Water
Associated Lab Samples: 60246398012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	06/16/17 10:19	

LABORATORY CONTROL SAMPLE: 1971279

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	958	96	80-120	

SAMPLE DUPLICATE: 1971280

Parameter	Units	60246435001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	69.0	69.0	0	10	

SAMPLE DUPLICATE: 1971281

Parameter	Units	60246405002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3150	3280	4	10	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481021 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011, 60246398012

SAMPLE DUPLICATE: 1970343

Parameter	Units	60246392004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	6.8	6.9	1	10	H6

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481556
QC Batch Method: EPA 9040
Analysis Method: EPA 9040
Analysis Description: 9040 pH
Associated Lab Samples: 60246398005

SAMPLE DUPLICATE: 1972962

Parameter	Units	60246398005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.1	7.2	1	10	H6

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481553 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011

METHOD BLANK: 1972950 Matrix: Water
Associated Lab Samples: 60246398001, 60246398002, 60246398003, 60246398004, 60246398005, 60246398006, 60246398007, 60246398008, 60246398009, 60246398010, 60246398011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	06/19/17 09:01	
Fluoride	mg/L	ND	0.20	0.10	06/19/17 09:01	
Sulfate	mg/L	ND	1.0	0.50	06/19/17 09:01	

LABORATORY CONTROL SAMPLE: 1972951

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	99	80-120	
Fluoride	mg/L	2.5	2.7	108	80-120	
Sulfate	mg/L	5	5.1	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1972952 1972953

Parameter	Units	60246392001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.4	5	5	19.1	19.2	113	114	80-120	0	15	
Fluoride	mg/L	1.5	2.5	2.5	4.3	4.3	111	113	80-120	1	15	
Sulfate	mg/L	53.5	25	25	80.1	80.0	106	106	80-120	0	15	

SAMPLE DUPLICATE: 1972954

Parameter	Units	60246398001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	21.5	21.2	1	15	
Fluoride	mg/L	0.23	0.21	12	15	

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QUALITY CONTROL DATA

Project: Burlington/25216066.00
Pace Project No.: 60246398

QC Batch: 481713 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60246398001, 60246398012

METHOD BLANK: 1973386 Matrix: Water
Associated Lab Samples: 60246398001, 60246398012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	06/20/17 08:41	
Fluoride	mg/L	ND	0.20	0.10	06/20/17 08:41	
Sulfate	mg/L	ND	1.0	0.50	06/20/17 08:41	

LABORATORY CONTROL SAMPLE: 1973387

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	80-120	
Fluoride	mg/L	2.5	2.8	110	80-120	
Sulfate	mg/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1973388 1973389

Parameter	Units	2056122002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	443	125	125	591	591	119	118	80-120	0	15	
Fluoride	mg/L	ND	62.5	62.5	71.9	71.6	115	115	80-120	0	15	
Sulfate	mg/L	361	125	125	497	496	109	108	80-120	0	15	

SAMPLE DUPLICATE: 1973390

Parameter	Units	60246747002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	ND	39.0J		15	
Fluoride	mg/L	10.1	10J		15	
Sulfate	mg/L	529	531	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Burlington/25216066.00
Pace Project No.: 60246398

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.

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.

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TNI - The NELAC Institute.

LABORATORIES

PASI-K	Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60246398

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60246398001	MW-301		482270		
60246398002	MW-302		482270		
60246398003	MW-303		482270		
60246398004	MW-304		482270		
60246398005	MW-305		482270		
60246398006	MW-306		482270		
60246398007	MW-307		482270		
60246398008	MW-308		482270		
60246398009	MW-309		482270		
60246398010	MW-310		482270		
60246398011	MW-311		482270		
60246398001	MW-301	EPA 3010	481436	EPA 6010	481515
60246398002	MW-302	EPA 3010	481436	EPA 6010	481515
60246398003	MW-303	EPA 3010	481436	EPA 6010	481515
60246398004	MW-304	EPA 3010	481436	EPA 6010	481515
60246398005	MW-305	EPA 3010	481436	EPA 6010	481515
60246398006	MW-306	EPA 3010	481436	EPA 6010	481515
60246398007	MW-307	EPA 3010	481436	EPA 6010	481515
60246398008	MW-308	EPA 3010	481436	EPA 6010	481515
60246398009	MW-309	EPA 3010	481436	EPA 6010	481515
60246398010	MW-310	EPA 3010	481436	EPA 6010	481515
60246398011	MW-311	EPA 3010	481436	EPA 6010	481515
60246398012	FIELD BLANK	EPA 3010	481436	EPA 6010	481515
60246398001	MW-301	EPA 3010	481434	EPA 6020	481512
60246398002	MW-302	EPA 3010	481434	EPA 6020	481512
60246398003	MW-303	EPA 3010	481434	EPA 6020	481512
60246398004	MW-304	EPA 3010	481434	EPA 6020	481512
60246398005	MW-305	EPA 3010	481434	EPA 6020	481512
60246398006	MW-306	EPA 3010	481434	EPA 6020	481512
60246398007	MW-307	EPA 3010	481434	EPA 6020	481512
60246398008	MW-308	EPA 3010	481434	EPA 6020	481512
60246398009	MW-309	EPA 3010	481434	EPA 6020	481512
60246398010	MW-310	EPA 3010	481434	EPA 6020	481512
60246398011	MW-311	EPA 3010	481434	EPA 6020	481512
60246398012	FIELD BLANK	EPA 3010	481434	EPA 6020	481512
60246398001	MW-301	EPA 7470	481961	EPA 7470	482096
60246398002	MW-302	EPA 7470	481961	EPA 7470	482096
60246398003	MW-303	EPA 7470	481961	EPA 7470	482096
60246398004	MW-304	EPA 7470	481961	EPA 7470	482096
60246398005	MW-305	EPA 7470	481961	EPA 7470	482096
60246398006	MW-306	EPA 7470	481961	EPA 7470	482096
60246398007	MW-307	EPA 7470	481961	EPA 7470	482096
60246398008	MW-308	EPA 7470	481961	EPA 7470	482096
60246398009	MW-309	EPA 7470	481961	EPA 7470	482096
60246398010	MW-310	EPA 7470	481961	EPA 7470	482096
60246398011	MW-311	EPA 7470	481961	EPA 7470	482096
60246398012	FIELD BLANK	EPA 7470	481965	EPA 7470	482097

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60246398

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60246398001	MW-301	SM 2540C	481025		
60246398002	MW-302	SM 2540C	481025		
60246398003	MW-303	SM 2540C	481025		
60246398004	MW-304	SM 2540C	481025		
60246398005	MW-305	SM 2540C	481025		
60246398006	MW-306	SM 2540C	481025		
60246398007	MW-307	SM 2540C	481025		
60246398008	MW-308	SM 2540C	481025		
60246398009	MW-309	SM 2540C	481025		
60246398010	MW-310	SM 2540C	481025		
60246398011	MW-311	SM 2540C	481025		
60246398012	FIELD BLANK	SM 2540C	481231		
60246398001	MW-301	EPA 9040	481021		
60246398002	MW-302	EPA 9040	481021		
60246398003	MW-303	EPA 9040	481021		
60246398004	MW-304	EPA 9040	481021		
60246398005	MW-305	EPA 9040	481556		
60246398006	MW-306	EPA 9040	481021		
60246398007	MW-307	EPA 9040	481021		
60246398008	MW-308	EPA 9040	481021		
60246398009	MW-309	EPA 9040	481021		
60246398010	MW-310	EPA 9040	481021		
60246398011	MW-311	EPA 9040	481021		
60246398012	FIELD BLANK	EPA 9040	481021		
60246398001	MW-301	EPA 9056	481553		
60246398001	MW-301	EPA 9056	481713		
60246398002	MW-302	EPA 9056	481553		
60246398003	MW-303	EPA 9056	481553		
60246398004	MW-304	EPA 9056	481553		
60246398005	MW-305	EPA 9056	481553		
60246398006	MW-306	EPA 9056	481553		
60246398007	MW-307	EPA 9056	481553		
60246398008	MW-308	EPA 9056	481553		
60246398009	MW-309	EPA 9056	481553		
60246398010	MW-310	EPA 9056	481553		
60246398011	MW-311	EPA 9056	481553		
60246398012	FIELD BLANK	EPA 9056	481713		

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Sample Condition Upon Receipt

WO# : 60246398

60246398

Client Name: SCS Eng.

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7868 6737 2151 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: CF +2.9 T-266 / CF +0.2 T-239 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 3.8 **Corr. Factor** CF +2.9 CF +0.2 **Corrected** 4.0

Date and initials of person examining contents: ~~JLS~~ 450 6/14/17

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	pH
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: water	☐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	
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☒N/A ☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: [signature] Date: 6-14-17

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

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:	25216066.00

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): N N N

Pace Project No./ Lab I.D.: 60246398

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3 (250 mL)	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	6010 Total Metals: B-Ca-Li	6020 Total Metals *	7470 Total Hg	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-301	WT	G	xxx	xxx	6/12/17	1915		3	1		2						X	X	X	X	X	X		1(BP2U) 2(BP3N) 001
2	MW-302	WT	G	xxx	xxx		1750		3	1		2						X	X	X	X	X	X		002
3	MW-303	WT	G	xxx	xxx		1655		4	1		3						X	X	X	X	X	X		1(BP2U) 3(BP3N) 003
4	MW-304	WT	G	xxx	xxx		1615		3	1		2						X	X	X	X	X	X		1(BP2U) 2(BP3N) 004
5	MW-305	WT	G	xxx	xxx	6/13/17	1310		3	1		2						X	X	X	X	X	X		005
6	MW-306	WT	G	xxx	xxx		1230		3	1		2						X	X	X	X	X	X		006
7	MW-307	WT	G	xxx	xxx		1130		3	1		2						X	X	X	X	X	X		007
8	MW-308	WT	G	xxx	xxx		1035		3	1		2						X	X	X	X	X	X		008
9	MW-309	WT	G	xxx	xxx		0955		3	1		2						X	X	X	X	X	X		009
10	MW-310	WT	G	xxx	xxx	6/12/17	2010		3	1		2						X	X	X	X	X	X		010
11	MW-311	WT	G	xxx	xxx	6/13/17	2045		3	1		2						X	X	X	X	X	X		011
12	FIELD BLANK	WT	G	xxx	xxx	6/13/17	1100		2	1		1						X	X	X	X	X	X		1(BP2U) 1(BP3N) 012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	[signature]	6/13/17	1600	[signature] / Pace	6/14/17	855	4.0	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/13/17

*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

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

July 03, 2017

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.00
Pace Project No.: 60246414

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on June 14, 2017. 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
1(913)563-1405
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Jeff Maxted, Alliant Energy

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CERTIFICATIONS

Project: Burlington/25216066.00
Pace Project No.: 60246414

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60246414001	**MW-301**	Water	06/12/17 19:15	06/14/17 08:55
60246414002	**MW-302**	Water	06/12/17 17:50	06/14/17 08:55
60246414003	**MW-303**	Water	06/12/17 16:55	06/14/17 08:55
60246414004	**MW-304**	Water	06/12/17 16:15	06/14/17 08:55
60246414005	**MW-305**	Water	06/13/17 13:10	06/14/17 08:55
60246414006	**MW-306**	Water	06/13/17 12:30	06/14/17 08:55
60246414007	**MW-307**	Water	06/13/17 11:30	06/14/17 08:55
60246414008	**MW-308**	Water	06/13/17 10:35	06/14/17 08:55
60246414009	**MW-309**	Water	06/13/17 09:55	06/14/17 08:55
60246414010	**MW-310**	Water	06/12/17 20:10	06/14/17 08:55
60246414011	**MW-311**	Water	06/12/17 20:45	06/14/17 08:55
60246414012	**FIELD BLANK**	Water	06/13/17 11:00	06/14/17 08:55

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60246414

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60246414001	MW-301	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414002	MW-302	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414003	MW-303	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414004	MW-304	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414005	MW-305	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414006	MW-306	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414007	MW-307	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414008	MW-308	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414009	MW-309	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414010	MW-310	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414011	MW-311	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60246414012	FIELD BLANK	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-301 **Lab ID: 60246414001** Collected: 06/12/17 19:15 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.901 ± 0.480 (0.414) C:NA T:94%**	pCi/L	06/27/17 11:00	13982-63-3	
Radium-228	EPA 904.0	**0.954 ± 0.459 (0.805) C:75% T:82%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**1.86 ± 0.939 (1.22)**	pCi/L	07/03/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-302 **Lab ID: 60246414002** Collected: 06/12/17 17:50 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.713 ± 0.424 (0.404) C:NA T:100%**	pCi/L	06/27/17 11:17	13982-63-3	
Radium-228	EPA 904.0	**1.13 ± 0.473 (0.754) C:74% T:76%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**1.84 ± 0.897 (1.16)**	pCi/L	07/03/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-303 **Lab ID: 60246414003** Collected: 06/12/17 16:55 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.734 ± 0.456 (0.450) C:NA T:91%**	pCi/L	06/27/17 11:17	13982-63-3	
Radium-228	EPA 904.0	**1.13 ± 0.448 (0.694) C:77% T:81%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**1.86 ± 0.904 (1.14)**	pCi/L	07/03/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-304 **Lab ID: 60246414004** Collected: 06/12/17 16:15 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.928 ± 0.591 (0.743) C:NA T:86%**	pCi/L	06/27/17 11:17	13982-63-3	
Radium-228	EPA 904.0	**0.362 ± 0.374 (0.772) C:70% T:76%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**1.29 ± 0.965 (1.52)**	pCi/L	07/03/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-305 **Lab ID: 60246414005** Collected: 06/13/17 13:10 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.551 ± 0.409 (0.511) C:NA T:103%**	pCi/L	06/27/17 11:17	13982-63-3	
Radium-228	EPA 904.0	**0.795 ± 0.356 (0.576) C:77% T:88%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**1.35 ± 0.765 (1.09)**	pCi/L	07/03/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-306 **Lab ID: 60246414006** Collected: 06/13/17 12:30 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.157 ± 0.370 (0.686) C:NA T:95%**	pCi/L	06/27/17 11:17	13982-63-3	
Radium-228	EPA 904.0	**0.0974 ± 0.338 (0.765) C:75% T:75%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.254 ± 0.708 (1.45)**	pCi/L	07/03/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-307 **Lab ID: 60246414007** Collected: 06/13/17 11:30 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.735 ± 0.480 (0.492) C:NA T:90%**	pCi/L	06/27/17 11:17	13982-63-3	
Radium-228	EPA 904.0	**0.115 ± 0.347 (0.782) C:75% T:71%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.850 ± 0.827 (1.27)**	pCi/L	07/03/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-308 **Lab ID: 60246414008** Collected: 06/13/17 10:35 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.400 ± 0.372 (0.490) C:NA T:79%**	pCi/L	06/27/17 11:35	13982-63-3	
Radium-228	EPA 904.0	**0.481 ± 0.345 (0.667) C:77% T:82%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.881 ± 0.717 (1.16)**	pCi/L	07/03/17 15:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-309 **Lab ID: 60246414009** Collected: 06/13/17 09:55 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.292 ± 0.445 (0.766) C:NA T:96%**	pCi/L	06/27/17 11:35	13982-63-3	
Radium-228	EPA 904.0	**0.554 ± 0.319 (0.569) C:78% T:81%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.846 ± 0.764 (1.34)**	pCi/L	07/03/17 15:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-310 **Lab ID: 60246414010** Collected: 06/12/17 20:10 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.505 ± 0.369 (0.413) C:NA T:94%**	pCi/L	06/27/17 11:35	13982-63-3	
Radium-228	EPA 904.0	**1.19 ± 0.461 (0.663) C:80% T:65%**	pCi/L	06/28/17 15:39	15262-20-1	
Total Radium	Total Radium Calculation	**1.70 ± 0.830 (1.08)**	pCi/L	07/03/17 15:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: MW-311 **Lab ID: 60246414011** Collected: 06/12/17 20:45 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.445 ± 0.625 (1.06) C:NA T:83%**	pCi/L	06/27/17 11:35	13982-63-3	
Radium-228	EPA 904.0	**0.340 ± 0.328 (0.671) C:79% T:80%**	pCi/L	06/28/17 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.785 ± 0.953 (1.73)**	pCi/L	07/03/17 15:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

Sample: FIELD BLANK **Lab ID: 60246414012** Collected: 06/13/17 11:00 Received: 06/14/17 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.170 ± 0.335 (0.612) C:NA T:91%**	pCi/L	06/27/17 11:35	13982-63-3	
Radium-228	EPA 904.0	**0.287 ± 0.293 (0.605) C:80% T:90%**	pCi/L	06/28/17 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.457 ± 0.628 (1.22)**	pCi/L	07/03/17 15:15	7440-14-4	

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

QC Batch: 262264 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60246414001, 60246414002, 60246414003, 60246414004, 60246414005, 60246414006, 60246414007, 60246414008, 60246414009, 60246414010, 60246414011, 60246414012

METHOD BLANK: 1291823 Matrix: Water
Associated Lab Samples: 60246414001, 60246414002, 60246414003, 60246414004, 60246414005, 60246414006, 60246414007, 60246414008, 60246414009, 60246414010, 60246414011, 60246414012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.686 ± 0.396 (0.155) C:NA T:93%	pCi/L	06/27/17 11:00	1e

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60246414

QC Batch: 262271 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60246414001, 60246414002, 60246414003, 60246414004, 60246414005, 60246414006, 60246414007, 60246414008, 60246414009, 60246414010, 60246414011, 60246414012

METHOD BLANK: 1291831 Matrix: Water
Associated Lab Samples: 60246414001, 60246414002, 60246414003, 60246414004, 60246414005, 60246414006, 60246414007, 60246414008, 60246414009, 60246414010, 60246414011, 60246414012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.217 ± 0.337 (0.730) C:77% T:86%	pCi/L	06/28/17 15:39	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: Burlington/25216066.00
Pace Project No.: 60246414

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.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA	Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

1e	A LCS duplicate was prepared with the batch to assess duplicate precision, however, the LCSD was inadvertently not spiked. Batch duplicate precision was assessed using the MB and the unspiked LCSD results.

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60246414

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60246414001	**MW-301**	EPA 903.1	262264		
60246414002	**MW-302**	EPA 903.1	262264		
60246414003	**MW-303**	EPA 903.1	262264		
60246414004	**MW-304**	EPA 903.1	262264		
60246414005	**MW-305**	EPA 903.1	262264		
60246414006	**MW-306**	EPA 903.1	262264		
60246414007	**MW-307**	EPA 903.1	262264		
60246414008	**MW-308**	EPA 903.1	262264		
60246414009	**MW-309**	EPA 903.1	262264		
60246414010	**MW-310**	EPA 903.1	262264		
60246414011	**MW-311**	EPA 903.1	262264		
60246414012	**FIELD BLANK**	EPA 903.1	262264		
60246414001	**MW-301**	EPA 904.0	262271		
60246414002	**MW-302**	EPA 904.0	262271		
60246414003	**MW-303**	EPA 904.0	262271		
60246414004	**MW-304**	EPA 904.0	262271		
60246414005	**MW-305**	EPA 904.0	262271		
60246414006	**MW-306**	EPA 904.0	262271		
60246414007	**MW-307**	EPA 904.0	262271		
60246414008	**MW-308**	EPA 904.0	262271		
60246414009	**MW-309**	EPA 904.0	262271		
60246414010	**MW-310**	EPA 904.0	262271		
60246414011	**MW-311**	EPA 904.0	262271		
60246414012	**FIELD BLANK**	EPA 904.0	262271		
60246414001	**MW-301**	Total Radium Calculation	263936		
60246414002	**MW-302**	Total Radium Calculation	263936		
60246414003	**MW-303**	Total Radium Calculation	263936		
60246414004	**MW-304**	Total Radium Calculation	263936		
60246414005	**MW-305**	Total Radium Calculation	263936		
60246414006	**MW-306**	Total Radium Calculation	263936		
60246414007	**MW-307**	Total Radium Calculation	263936		
60246414008	**MW-308**	Total Radium Calculation	263936		
60246414009	**MW-309**	Total Radium Calculation	263937		
60246414010	**MW-310**	Total Radium Calculation	263937		
60246414011	**MW-311**	Total Radium Calculation	263937		
60246414012	**FIELD BLANK**	Total Radium Calculation	263937		

REPORT OF LABORATORY ANALYSIS

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60246414

60246414

Client Name: SCS Eng

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7868 6737 2173, 2162 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-266 / T-239 (CF +2.9 / CF +0.2) **Type of Ice:** Wet Blue None

Cooler Temperature (°C): As-read 23.4/25.6 **Corr. Factor** (CF +2.9 / CF +0.2) **Corrected** 23.6/25.2

Date and initials of person examining contents: 6/14/17

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	
Cyanide water sample checks: ☑N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: _____ Date: 6-14-17

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CHAIN-OF-CUSTODY / Analytical Request Document

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

COC Goes with Another Cooler 1 of 2 coolers

301-307

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	SCS Engineers	Report To:	Meghan Blodgett	Attention:	Meghan Blodgett/Jess Valcheff
Address:	2830 Dairy Drive	Copy To:	Tom Karwaski	Company Name:	SCS Engineers
	Madison WI 53718			Address:	
Email To:	mblodgett@scsengineers.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	608-216-7362 Fax:	Project Name:	Burlington	Pace Project Manager:	Trudy Gipson 913-563-1405
Requested Due Date/TAT:		Project Number:	25216066.00.	Pace Profile #:	6696 Line 2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: IA

Requested Analysis Filtered (Y/N)

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

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	903.1 Radium-226	904.0 Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-301	WT	G	xxx	xxx	6/13/17	1915		2			2						X	X	X		602466414	01
2	MW-302	WT	G	xxx	xxx		1750		2			2						X	X	X			02
3	MW-303	WT	G	xxx	xxx		1655		2			2						X	X	X			03
4	MW-304	WT	G	xxx	xxx		1615		2			2						X	X	X			04
5	MW-305	WT	G	xxx	xxx	6/13/17	1310		2			2						X	X	X			05
6	MW-306	WT	G	xxx	xxx		1230		2			2						X	X	X			06
7	MW-307	WT	G	xxx	xxx		1130		2			2						X	X	X			07
8	MW-308	WT	G	xxx	xxx		1035		2			2						X	X	X			08
9	MW-309	WT	G	xxx	xxx		0955		2			2						X	X	X			09
10	MW-310	WT	G	xxx	xxx	6/12/17	2010		2			2						X	X	X			010
11	MW-311	WT	G	xxx	xxx		2045		2			2						X	X	X			011
12	FIELD BLANK	WT	G	xxx	xxx	6/13/17	1100		2			2						X	X	X			012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219		6/13/17	1600		6/14/17	0855

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/13/17

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

Chain of Custody

30221780

Pace Analytical®
www.pacelabs.com

Workorder: 60246414 **Workorder Name:** Burlington/25216066.00 **Owner Received Date:** 6/14/2017 **Results Requested By:** 7/7/2017

Report To	Subcontract To
Trudy Gipson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 1(913)563-1405	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO#:30221780

30221780

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: 903.1 Radium-226	904.0 Radium-228	Total Radium												LAB USE ONLY
1	MW-301	PS	6/12/2017 19:15	60246414001	Water	2						X	X	X												001
2	MW-302	PS	6/12/2017 17:50	60246414002	Water	2						X	X	X												002
3	MW-303	PS	6/12/2017 16:55	60246414003	Water	2						X	X	X												003
4	MW-304	PS	6/12/2017 16:15	60246414004	Water	2						X	X	X												004
5	MW-305	PS	6/13/2017 13:10	60246414005	Water	2						X	X	X												005
6	MW-306	PS	6/13/2017 12:30	60246414006	Water	2						X	X	X												006
7	MW-307	PS	6/13/2017 11:30	60246414007	Water	2						X	X	X												007
8	MW-308	PS	6/13/2017 10:35	60246414008	Water	2						X	X	X												008
9	MW-309	PS	6/13/2017 09:55	60246414009	Water	2						X	X	X												009
10	MW-310	PS	6/12/2017 20:10	60246414010	Water	2						X	X	X												010
11	MW-311	PS	6/12/2017 20:45	60246414011	Water	2						X	X	X												011
12	FIELD BLANK	PS	6/13/2017 11:00	60246414012	Water	2						X	X	X												012

Transfers	Released By	Date/Time	Received	Date/Time
1	[illegible] 6/14/17	1300	[illegible]	6/14/17 1015
2				
3				

Comments

Cooler Temperature on Receipt 5.1A °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

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

Sample Condition Upon Receipt Pittsburgh

Face Analytical

Client Name: PACE - KANSAS Project # 30221780

1015

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

Tracking #: 734076887516O

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

Thermometer Used N/A Type of Ice: Wet Blue None

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

Temp should be above freezing to 6°C

Date and initials of person examining contents: ZH 06/16/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15. PH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZH Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZH Date: 06/16/17

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

A8 Round 8 Background Sampling, Analytical Laboratory Report

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

August 30, 2017

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.17
Pace Project No.: 60251146

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on August 17, 2017. 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
1(913)563-1405
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Kyle Kramer, SCS Engineers
Jeff Maxted, Alliant Energy

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: Burlington/25216066.17
Pace Project No.: 60251146

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60251146001	**MW-301**	Water	08/16/17 09:00	08/17/17 09:55
60251146002	**MW-302**	Water	08/15/17 20:30	08/17/17 09:55
60251146003	**MW-303**	Water	08/15/17 20:00	08/17/17 09:55
60251146004	**MW-304**	Water	08/15/17 18:45	08/17/17 09:55
60251146005	**MW-305**	Water	08/16/17 10:50	08/17/17 09:55
60251146006	**MW-306**	Water	08/16/17 12:40	08/17/17 09:55
60251146007	**MW-307**	Water	08/16/17 11:45	08/17/17 09:55
60251146008	**MW-308**	Water	08/16/17 09:50	08/17/17 09:55
60251146009	**MW-309**	Water	08/16/17 13:25	08/17/17 09:55
60251146010	**MW-310**	Water	08/16/17 14:35	08/17/17 09:55
60251146011	**MW-311**	Water	08/16/17 14:10	08/17/17 09:55
60251146012	**FIELD BLANK**	Water	08/16/17 12:25	08/17/17 09:55

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.17
Pace Project No.: 60251146

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60251146001	**MW-301**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146002	**MW-302**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146003	**MW-303**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146004	**MW-304**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146005	**MW-305**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146006	**MW-306**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146007	**MW-307**	EPA 6010	TDS	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.17
Pace Project No.: 60251146

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146008	**MW-308**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146009	**MW-309**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146010	**MW-310**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146011	**MW-311**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K
60251146012	**FIELD BLANK**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	NSM	1	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	JMC1	3	PASI-K

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-301 **Lab ID: 60251146001** Collected: 08/16/17 09:00 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/17 09:00		
Field pH	**6.89**	Std. Units	0.10	0.050	1		08/16/17 09:00		
Field Temperature	**13.80**	deg C	0.50	0.25	1		08/16/17 09:00		
Field Specific Conductance	**1925**	umhos/cm	1.0	1.0	1		08/16/17 09:00		
Field Oxidation Potential	**-90.4**	mV			1		08/16/17 09:00		
Oxygen, Dissolved	**0.05**	mg/L			1		08/16/17 09:00	7782-44-7	
Turbidity	**0.40**	NTU	1.0	1.0	1		08/16/17 09:00		
Groundwater Elevation	**519.96**	feet			1		08/16/17 09:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**14000**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 14:23	7440-42-8	M1
Calcium	**211**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 14:23	7440-70-2	M1
Lithium	**18.2**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 14:23	7439-93-2	B
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.20J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 20:14	7440-36-0	
Arsenic	**42.7**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 20:14	7440-38-2	
Barium	**479**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 20:14	7440-39-3	
Beryllium	**0.014J**	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 20:14	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 20:14	7440-43-9	
Chromium	**0.49J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 20:14	7440-47-3	B
Cobalt	**0.46J**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 20:14	7440-48-4	
Lead	**0.23J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 20:14	7439-92-1	B
Molybdenum	**98.5**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 20:14	7439-98-7	
Selenium	**0.35J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 20:14	7782-49-2	
Thallium	**0.059J**	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 20:14	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:18	7439-97-6	M1
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1190**	mg/L	5.0	5.0	1		08/18/17 15:31		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.8**	mg/L	4.0	2.0	4		08/29/17 12:04	16887-00-6	
Fluoride	**0.45**	mg/L	0.20	0.10	1		08/29/17 11:49	16984-48-8	
Sulfate	**327**	mg/L	50.0	25.0	50		08/29/17 12:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-302 **Lab ID: 60251146002** Collected: 08/15/17 20:30 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/15/17 20:30		
Field pH	**8.38**	Std. Units	0.10	0.050	1		08/15/17 20:30		
Field Temperature	**13.70**	deg C	0.50	0.25	1		08/15/17 20:30		
Field Specific Conductance	**1752**	umhos/cm	1.0	1.0	1		08/15/17 20:30		
Field Oxidation Potential	**-179.2**	mV			1		08/15/17 20:30		
Oxygen, Dissolved	**0.18**	mg/L			1		08/15/17 20:30	7782-44-7	
Turbidity	**0.25**	NTU	1.0	1.0	1		08/15/17 20:30		
Groundwater Elevation	**519.39**	feet			1		08/15/17 20:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**9450**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 14:34	7440-42-8	
Calcium	**225**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 14:34	7440-70-2	
Lithium	**56.9**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 14:34	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.16J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 20:27	7440-36-0	
Arsenic	**58.5**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 20:27	7440-38-2	M1
Barium	**348**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 20:27	7440-39-3	M1
Beryllium	**0.012J**	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 20:27	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 20:27	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 20:27	7440-47-3	B
Cobalt	**0.24J**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 20:27	7440-48-4	
Lead	**0.22J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 20:27	7439-92-1	B
Molybdenum	**113**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 20:27	7439-98-7	M1
Selenium	**0.24J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 20:27	7782-49-2	
Thallium	**0.41J**	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 20:27	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:24	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**989**	mg/L	5.0	5.0	1		08/18/17 09:08		
9040 pH	Analytical Method: EPA 9040								
pH	**7.8**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.7**	mg/L	1.0	0.50	1		08/29/17 14:10	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		08/29/17 14:10	16984-48-8	
Sulfate	**512**	mg/L	50.0	25.0	50		08/30/17 13:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-303 **Lab ID: 60251146003** Collected: 08/15/17 20:00 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/15/17 20:00		
Field pH	**6.97**	Std. Units	0.10	0.050	1		08/15/17 20:00		
Field Temperature	**14.4**	deg C	0.50	0.25	1		08/15/17 20:00		
Field Specific Conductance	**887**	umhos/cm	1.0	1.0	1		08/15/17 20:00		
Field Oxidation Potential	**-132.0**	mV			1		08/15/17 20:00		
Oxygen, Dissolved	**0.07**	mg/L			1		08/15/17 20:00	7782-44-7	
Turbidity	**0.46**	NTU	1.0	1.0	1		08/15/17 20:00		
Groundwater Elevation	**519.30**	feet			1		08/15/17 20:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**24100**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 14:38	7440-42-8	
Calcium	**79.4**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 14:38	7440-70-2	
Lithium	**45.1**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 14:38	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.13J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 20:31	7440-36-0	
Arsenic	**30.9**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 20:31	7440-38-2	
Barium	**281**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 20:31	7440-39-3	
Beryllium	**0.020J**	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 20:31	7440-41-7	
Cadmium	**0.018J**	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 20:31	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 20:31	7440-47-3	B
Cobalt	**0.42J**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 20:31	7440-48-4	
Lead	**0.14J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 20:31	7439-92-1	B
Molybdenum	**73.1**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 20:31	7439-98-7	
Selenium	**0.23J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 20:31	7782-49-2	
Thallium	**0.13J**	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 20:31	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:26	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**434**	mg/L	5.0	5.0	1		08/18/17 09:08		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.3**	mg/L	1.0	0.50	1		08/29/17 14:55	16887-00-6	
Fluoride	**0.24**	mg/L	0.20	0.10	1		08/29/17 14:55	16984-48-8	
Sulfate	**46.0**	mg/L	5.0	2.5	5		08/29/17 15:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-304 **Lab ID: 60251146004** Collected: 08/15/17 18:45 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/15/17 18:45		
Field pH	**8.71**	Std. Units	0.10	0.050	1		08/15/17 18:45		
Field Temperature	**14.8**	deg C	0.50	0.25	1		08/15/17 18:45		
Field Specific Conductance	**971**	umhos/cm	1.0	1.0	1		08/15/17 18:45		
Field Oxidation Potential	**-231.3**	mV			1		08/15/17 18:45		
Oxygen, Dissolved	**0.03**	mg/L			1		08/15/17 18:45	7782-44-7	
Turbidity	**0.26**	NTU	1.0	1.0	1		08/15/17 18:45		
Groundwater Elevation	**519.23**	feet			1		08/15/17 18:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5370**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 14:41	7440-42-8	
Calcium	**97.2**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 14:41	7440-70-2	
Lithium	**51.0**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 14:41	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.88J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 20:36	7440-36-0	
Arsenic	**65.6**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 20:36	7440-38-2	
Barium	**84.7**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 20:36	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 20:36	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 20:36	7440-43-9	
Chromium	**0.30J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 20:36	7440-47-3	B
Cobalt	**0.10J**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 20:36	7440-48-4	
Lead	**0.90J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 20:36	7439-92-1	B
Molybdenum	**66.8**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 20:36	7439-98-7	
Selenium	**0.26J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 20:36	7782-49-2	
Thallium	**0.12J**	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 20:36	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:29	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**501**	mg/L	5.0	5.0	1		08/18/17 09:09		
9040 pH	Analytical Method: EPA 9040								
pH	**8.8**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**30.2**	mg/L	5.0	2.5	5		08/30/17 13:31	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		08/29/17 15:41	16984-48-8	
Sulfate	**216**	mg/L	20.0	10.0	20		08/29/17 15:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-305 **Lab ID: 60251146005** Collected: 08/16/17 10:50 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/17 10:50		
Field pH	**7.00**	Std. Units	0.10	0.050	1		08/16/17 10:50		
Field Temperature	**15.4**	deg C	0.50	0.25	1		08/16/17 10:50		
Field Specific Conductance	**972**	umhos/cm	1.0	1.0	1		08/16/17 10:50		
Field Oxidation Potential	**-94.7**	mV			1		08/16/17 10:50		
Oxygen, Dissolved	**0.11**	mg/L			1		08/16/17 10:50	7782-44-7	
Turbidity	**0.25**	NTU	1.0	1.0	1		08/16/17 10:50		
Groundwater Elevation	**519.93**	feet			1		08/16/17 10:50		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**1950**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 14:45	7440-42-8	
Calcium	**80.2**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 14:45	7440-70-2	
Lithium	**26.6**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 14:45	7439-93-2	B
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.13J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 20:40	7440-36-0	
Arsenic	**0.32J**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 20:40	7440-38-2	
Barium	**186**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 20:40	7440-39-3	
Beryllium	**0.018J**	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 20:40	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 20:40	7440-43-9	
Chromium	**0.43J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 20:40	7440-47-3	B
Cobalt	**0.15J**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 20:40	7440-48-4	
Lead	**0.24J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 20:40	7439-92-1	B
Molybdenum	**1.3**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 20:40	7439-98-7	
Selenium	**0.18J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 20:40	7782-49-2	
Thallium	**0.15J**	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 20:40	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:35	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**435**	mg/L	5.0	5.0	1		08/18/17 15:33		
9040 pH	Analytical Method: EPA 9040								
pH	**7.3**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**34.3**	mg/L	10.0	5.0	10		08/29/17 16:26	16887-00-6	
Fluoride	**0.48**	mg/L	0.20	0.10	1		08/29/17 16:11	16984-48-8	
Sulfate	**13.4**	mg/L	1.0	0.50	1		08/29/17 16:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-306 **Lab ID: 60251146006** Collected: 08/16/17 12:40 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/17 12:40		
Field pH	**6.59**	Std. Units	0.10	0.050	1		08/16/17 12:40		
Field Temperature	**14.9**	deg C	0.50	0.25	1		08/16/17 12:40		
Field Specific Conductance	**662**	umhos/cm	1.0	1.0	1		08/16/17 12:40		
Field Oxidation Potential	**-52.5**	mV			1		08/16/17 12:40		
Oxygen, Dissolved	**0.03**	mg/L			1		08/16/17 12:40	7782-44-7	
Turbidity	**0.10**	NTU	1.0	1.0	1		08/16/17 12:40		
Groundwater Elevation	**519.82**	feet			1		08/16/17 12:40		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3700**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 14:49	7440-42-8	
Calcium	**38.9**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 14:49	7440-70-2	
Lithium	**46.8**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 14:49	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.92J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 20:44	7440-36-0	
Arsenic	**43.2**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 20:44	7440-38-2	
Barium	**14.3**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 20:44	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 20:44	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 20:44	7440-43-9	
Chromium	**0.43J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 20:44	7440-47-3	B
Cobalt	**0.054J**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 20:44	7440-48-4	
Lead	**0.30J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 20:44	7439-92-1	B
Molybdenum	**94.4**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 20:44	7439-98-7	
Selenium	**0.52J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 20:44	7782-49-2	
Thallium	**0.15J**	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 20:44	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:37	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**312**	mg/L	5.0	5.0	1		08/18/17 15:33		
9040 pH	Analytical Method: EPA 9040								
pH	**6.8**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.6**	mg/L	4.0	2.0	4		08/29/17 17:27	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		08/29/17 17:12	16984-48-8	
Sulfate	**93.4**	mg/L	20.0	10.0	20		08/29/17 17:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-307 **Lab ID: 60251146007** Collected: 08/16/17 11:45 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/17 11:45		
Field pH	**10.80**	Std. Units	0.10	0.050	1		08/16/17 11:45		
Field Temperature	**14.6**	deg C	0.50	0.25	1		08/16/17 11:45		
Field Specific Conductance	**735**	umhos/cm	1.0	1.0	1		08/16/17 11:45		
Field Oxidation Potential	**-168.9**	mV			1		08/16/17 11:45		
Oxygen, Dissolved	**0.19**	mg/L			1		08/16/17 11:45	7782-44-7	
Turbidity	**1.98**	NTU	1.0	1.0	1		08/16/17 11:45		
Groundwater Elevation	**520.16**	feet			1		08/16/17 11:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3780**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 15:00	7440-42-8	
Calcium	**29.8**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 15:00	7440-70-2	
Lithium	**47.5**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 15:00	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.54J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 21:02	7440-36-0	
Arsenic	**52.8**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 21:02	7440-38-2	
Barium	**31.1**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 21:02	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 21:02	7440-41-7	
Cadmium	**0.023J**	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 21:02	7440-43-9	
Chromium	**0.33J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 21:02	7440-47-3	B
Cobalt	**0.034J**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 21:02	7440-48-4	
Lead	**0.46J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 21:02	7439-92-1	B
Molybdenum	**152**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 21:02	7439-98-7	
Selenium	**0.42J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 21:02	7782-49-2	
Thallium	**0.18J**	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 21:02	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:40	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**356**	mg/L	5.0	5.0	1		08/18/17 15:34		
9040 pH	Analytical Method: EPA 9040								
pH	**9.8**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.7**	mg/L	2.0	1.0	2		08/30/17 13:46	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		08/29/17 17:58	16984-48-8	
Sulfate	**130**	mg/L	10.0	5.0	10		08/29/17 18:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-308 **Lab ID: 60251146008** Collected: 08/16/17 09:50 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/17 09:50		
Field pH	**10.15**	Std. Units	0.10	0.050	1		08/16/17 09:50		
Field Temperature	**14.5**	deg C	0.50	0.25	1		08/16/17 09:50		
Field Specific Conductance	**1039**	umhos/cm	1.0	1.0	1		08/16/17 09:50		
Field Oxidation Potential	**-139.8**	mV			1		08/16/17 09:50		
Oxygen, Dissolved	**0.21**	mg/L			1		08/16/17 09:50	7782-44-7	
Turbidity	**0.61**	NTU	1.0	1.0	1		08/16/17 09:50		
Groundwater Elevation	**519.80**	feet			1		08/16/17 09:50		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4910**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 15:03	7440-42-8	
Calcium	**32.3**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 15:03	7440-70-2	
Lithium	**44.1**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 15:03	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.30J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 21:06	7440-36-0	
Arsenic	**77.9**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 21:06	7440-38-2	
Barium	**76.2**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 21:06	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 21:06	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 21:06	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 21:06	7440-47-3	B
Cobalt	**0.069J**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 21:06	7440-48-4	
Lead	**0.33J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 21:06	7439-92-1	B
Molybdenum	**137**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 21:06	7439-98-7	
Selenium	**0.47J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 21:06	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 21:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:42	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**483**	mg/L	5.0	5.0	1		08/18/17 15:35		
9040 pH	Analytical Method: EPA 9040								
pH	**9.4**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**39.8**	mg/L	5.0	2.5	5		08/29/17 18:43	16887-00-6	
Fluoride	**0.14J**	mg/L	0.20	0.10	1		08/29/17 18:28	16984-48-8	
Sulfate	**181**	mg/L	20.0	10.0	20		08/29/17 18:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-309 **Lab ID: 60251146009** Collected: 08/16/17 13:25 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/17 13:25		
Field pH	**7.62**	Std. Units	0.10	0.050	1		08/16/17 13:25		
Field Temperature	**14.6**	deg C	0.50	0.25	1		08/16/17 13:25		
Field Specific Conductance	**1853**	umhos/cm	1.0	1.0	1		08/16/17 13:25		
Field Oxidation Potential	**-112.8**	mV			1		08/16/17 13:25		
Oxygen, Dissolved	**0.20**	mg/L			1		08/16/17 13:25	7782-44-7	
Turbidity	**4.61**	NTU	1.0	1.0	1		08/16/17 13:25		
Groundwater Elevation	**519.93**	feet			1		08/16/17 13:25		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4310**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 15:07	7440-42-8	
Calcium	**130**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 15:07	7440-70-2	
Lithium	**6.3J**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 15:07	7439-93-2	B
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.051J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 21:11	7440-36-0	
Arsenic	**34.6**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 21:11	7440-38-2	
Barium	**274**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 21:11	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 21:11	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 21:11	7440-43-9	
Chromium	**0.49J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 21:11	7440-47-3	B
Cobalt	**1.3**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 21:11	7440-48-4	
Lead	**0.26J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 21:11	7439-92-1	B
Molybdenum	**67.5**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 21:11	7439-98-7	
Selenium	**0.34J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 21:11	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 21:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:44	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**859**	mg/L	5.0	5.0	1		08/18/17 15:36		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**92.5**	mg/L	10.0	5.0	10		08/29/17 19:29	16887-00-6	
Fluoride	**0.40**	mg/L	0.20	0.10	1		08/29/17 19:14	16984-48-8	
Sulfate	**136**	mg/L	10.0	5.0	10		08/29/17 19:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-310 **Lab ID: 60251146010** Collected: 08/16/17 14:35 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/17 14:35		
Field pH	**7.50**	Std. Units	0.10	0.050	1		08/16/17 14:35		
Field Temperature	**15.4**	deg C	0.50	0.25	1		08/16/17 14:35		
Field Specific Conductance	**1783**	umhos/cm	1.0	1.0	1		08/16/17 14:35		
Field Oxidation Potential	**102.8**	mV			1		08/16/17 14:35		
Oxygen, Dissolved	**0.21**	mg/L			1		08/16/17 14:35	7782-44-7	
Turbidity	**1.20**	NTU	1.0	1.0	1		08/16/17 14:35		
Groundwater Elevation	**523.89**	feet			1		08/16/17 14:35		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**365**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 15:11	7440-42-8	
Calcium	**139**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 15:11	7440-70-2	
Lithium	**7.7J**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 15:11	7439-93-2	B
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.10J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 21:15	7440-36-0	
Arsenic	**68.2**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 21:15	7440-38-2	
Barium	**665**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 21:15	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 21:15	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 21:15	7440-43-9	
Chromium	**0.52J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 21:15	7440-47-3	B
Cobalt	**1.8**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 21:15	7440-48-4	
Lead	**0.64J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 21:15	7439-92-1	B
Molybdenum	**4.1**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 21:15	7439-98-7	
Selenium	**0.20J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 21:15	7782-49-2	
Thallium	**0.35J**	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 21:15	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:46	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**760**	mg/L	5.0	5.0	1		08/18/17 15:37		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**121**	mg/L	10.0	5.0	10		08/29/17 20:45	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.10	1		08/29/17 20:30	16984-48-8	
Sulfate	**41.3**	mg/L	5.0	2.5	5		08/29/17 21:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: MW-311 **Lab ID: 60251146011** Collected: 08/16/17 14:10 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/16/17 14:10		
Field pH	**7.05**	Std. Units	0.10	0.050	1		08/16/17 14:10		
Field Temperature	**13.7**	deg C	0.50	0.25	1		08/16/17 14:10		
Field Specific Conductance	**1280**	umhos/cm	1.0	1.0	1		08/16/17 14:10		
Field Oxidation Potential	**-107.1**	mV			1		08/16/17 14:10		
Oxygen, Dissolved	**0.03**	mg/L			1		08/16/17 14:10	7782-44-7	
Turbidity	**1.15**	NTU	1.0	1.0	1		08/16/17 14:10		
Groundwater Elevation	**521.12**	feet			1		08/16/17 14:10		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**360**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 15:15	7440-42-8	
Calcium	**139**	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 15:15	7440-70-2	
Lithium	**3.3J**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 15:15	7439-93-2	B
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.057J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 21:19	7440-36-0	
Arsenic	**11.6**	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 21:19	7440-38-2	
Barium	**198**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 21:19	7440-39-3	
Beryllium	ND	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 21:19	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 21:19	7440-43-9	
Chromium	**0.32J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 21:19	7440-47-3	B
Cobalt	**0.24J**	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 21:19	7440-48-4	
Lead	**0.096J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 21:19	7439-92-1	B
Molybdenum	**16.0**	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 21:19	7439-98-7	
Selenium	**0.12J**	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 21:19	7782-49-2	
Thallium	**0.14J**	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 21:19	7440-28-0	B
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**623**	mg/L	5.0	5.0	1		08/18/17 15:37		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**45.0**	mg/L	10.0	5.0	10		08/29/17 21:30	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.10	1		08/29/17 21:15	16984-48-8	
Sulfate	**112**	mg/L	10.0	5.0	10		08/29/17 21:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60251146

Sample: FIELD BLANK **Lab ID: 60251146012** Collected: 08/16/17 12:25 Received: 08/17/17 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**12.4J**	ug/L	100	3.5	1	08/25/17 10:36	08/28/17 15:18	7440-42-8	
Calcium	ND	mg/L	0.10	0.036	1	08/25/17 10:36	08/28/17 15:18	7440-70-2	
Lithium	**3.6J**	ug/L	10.0	2.9	1	08/25/17 10:36	08/28/17 15:18	7439-93-2	B
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.16J**	ug/L	1.0	0.026	1	08/25/17 15:25	08/27/17 20:57	7440-36-0	
Arsenic	ND	ug/L	1.0	0.052	1	08/25/17 15:25	08/27/17 20:57	7440-38-2	
Barium	**0.23J**	ug/L	1.0	0.095	1	08/25/17 15:25	08/27/17 20:57	7440-39-3	B
Beryllium	ND	ug/L	0.50	0.012	1	08/25/17 15:25	08/27/17 20:57	7440-41-7	
Cadmium	ND	ug/L	0.50	0.018	1	08/25/17 15:25	08/27/17 20:57	7440-43-9	
Chromium	**0.22J**	ug/L	1.0	0.054	1	08/25/17 15:25	08/27/17 20:57	7440-47-3	B
Cobalt	ND	ug/L	1.0	0.014	1	08/25/17 15:25	08/27/17 20:57	7440-48-4	
Lead	**0.19J**	ug/L	1.0	0.033	1	08/25/17 15:25	08/27/17 20:57	7439-92-1	B
Molybdenum	ND	ug/L	1.0	0.058	1	08/25/17 15:25	08/27/17 20:57	7439-98-7	
Selenium	ND	ug/L	1.0	0.086	1	08/25/17 15:25	08/27/17 20:57	7782-49-2	
Thallium	ND	ug/L	1.0	0.036	1	08/25/17 15:25	08/27/17 20:57	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.046	1	08/28/17 12:30	08/28/17 17:51	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	5.0	5.0	1		08/18/17 15:38		
9040 pH	Analytical Method: EPA 9040								
pH	**6.0**	Std. Units	0.10	0.10	1		08/24/17 00:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	ND	mg/L	1.0	0.50	1		08/29/17 22:01	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		08/29/17 22:01	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		08/29/17 22:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60251146

QC Batch: 491727 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60251146001, 60251146002, 60251146003, 60251146004, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

METHOD BLANK: 2012790 Matrix: Water
Associated Lab Samples: 60251146001, 60251146002, 60251146003, 60251146004, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.046	08/28/17 17:13	

LABORATORY CONTROL SAMPLE: 2012791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.5	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2012792 2012793

Parameter	Units	60251146001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	3.1	3.8	62	75	75-125	20	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60251146

QC Batch: 491351 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60251146001, 60251146002, 60251146003, 60251146004, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

METHOD BLANK: 2011089 Matrix: Water
Associated Lab Samples: 60251146001, 60251146002, 60251146003, 60251146004, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	3.5	08/28/17 14:16	
Calcium	mg/L	ND	0.10	0.036	08/28/17 14:16	
Lithium	ug/L	ND	10.0	2.9	08/28/17 14:16	

LABORATORY CONTROL SAMPLE: 2011090

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	988	99	80-120	
Calcium	mg/L	10	10	100	80-120	
Lithium	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2011091 2011092

Parameter	Units	60251146001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	14000	1000	1000	14400	14900	43	94	75-125	3	20	M1
Calcium	mg/L	211	10	10	212	220	11	84	75-125	3	20	M1
Lithium	ug/L	18.2	1000	1000	1040	1040	102	102	75-125	0	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60251146

QC Batch: 491478 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60251146001, 60251146002, 60251146003, 60251146004, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

METHOD BLANK: 2011539 Matrix: Water
Associated Lab Samples: 60251146001, 60251146002, 60251146003, 60251146004, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.026	08/27/17 20:06	
Arsenic	ug/L	ND	1.0	0.052	08/27/17 20:06	
Barium	ug/L	0.38J	1.0	0.095	08/27/17 20:06	
Beryllium	ug/L	ND	0.50	0.012	08/27/17 20:06	
Cadmium	ug/L	ND	0.50	0.018	08/27/17 20:06	
Chromium	ug/L	0.14J	1.0	0.054	08/27/17 20:06	
Cobalt	ug/L	ND	1.0	0.014	08/27/17 20:06	
Lead	ug/L	0.10J	1.0	0.033	08/27/17 20:06	
Molybdenum	ug/L	0.069J	1.0	0.058	08/27/17 20:06	
Selenium	ug/L	ND	1.0	0.086	08/27/17 20:06	
Thallium	ug/L	0.22J	1.0	0.036	08/27/17 20:06	

LABORATORY CONTROL SAMPLE: 2011540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.1	100	80-120	
Arsenic	ug/L	40	40.6	101	80-120	
Barium	ug/L	40	39.9	100	80-120	
Beryllium	ug/L	40	41.2	103	80-120	
Cadmium	ug/L	40	40.4	101	80-120	
Chromium	ug/L	40	41.1	103	80-120	
Cobalt	ug/L	40	40.6	101	80-120	
Lead	ug/L	40	40.7	102	80-120	
Molybdenum	ug/L	40	41.0	102	80-120	
Selenium	ug/L	40	39.4	99	80-120	
Thallium	ug/L	40	38.7	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2011541 2011542

Parameter	Units	60251146002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.16J	40	40	38.4	39.1	96	97	75-125	2	20	
Arsenic	ug/L	58.5	40	40	79.4	80.5	52	55	75-125	1	20	M1
Barium	ug/L	348	40	40	497	514	372	415	75-125	3	20	M1
Beryllium	ug/L	0.012J	40	40	34.7	35.2	87	88	75-125	2	20	
Cadmium	ug/L	ND	40	40	37.0	37.2	92	93	75-125	1	20	
Chromium	ug/L	0.31J	40	40	39.4	40.0	98	99	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60251146

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2011541 2011542

Parameter	Units	60251146002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	0.24J	40	40	37.4	37.8	93	94	75-125	1	20	
Lead	ug/L	0.22J	40	40	40.5	41.8	101	104	75-125	3	20	
Molybdenum	ug/L	113	40	40	136	140	58	68	75-125	3	20	M1
Selenium	ug/L	0.24J	40	40	35.8	36.0	89	89	75-125	1	20	
Thallium	ug/L	0.41J	40	40	41.4	42.4	102	105	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60251146

QC Batch: 490385 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60251146002, 60251146003, 60251146004

METHOD BLANK: 2007444 Matrix: Water
Associated Lab Samples: 60251146002, 60251146003, 60251146004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	08/18/17 08:57	

LABORATORY CONTROL SAMPLE: 2007445

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	988	99	80-120	

SAMPLE DUPLICATE: 2007446

Parameter	Units	60251157001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	621	599	4	10	

SAMPLE DUPLICATE: 2007447

Parameter	Units	60251157015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	371	375	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60251146

QC Batch: 490479 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60251146001, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

METHOD BLANK: 2007866 Matrix: Water
Associated Lab Samples: 60251146001, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	08/18/17 15:23	

LABORATORY CONTROL SAMPLE: 2007867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	990	99	80-120	

SAMPLE DUPLICATE: 2007868

Parameter	Units	60251208002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	948	960	1	10	

SAMPLE DUPLICATE: 2007869

Parameter	Units	60251146001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1190	1160	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60251146

QC Batch: 491088 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60251146001, 60251146002, 60251146003, 60251146004, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

SAMPLE DUPLICATE: 2010056

Parameter	Units	60251317001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.2	7.5	4	10	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60251146

QC Batch: 491642 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60251146001, 60251146002, 60251146003, 60251146004, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

METHOD BLANK: 2012448 Matrix: Water
Associated Lab Samples: 60251146001, 60251146002, 60251146003, 60251146004, 60251146005, 60251146006, 60251146007, 60251146008, 60251146009, 60251146010, 60251146011, 60251146012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	08/29/17 07:46	
Fluoride	mg/L	ND	0.20	0.10	08/29/17 07:46	
Sulfate	mg/L	ND	1.0	0.50	08/29/17 07:46	

LABORATORY CONTROL SAMPLE: 2012449

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	80-120	
Fluoride	mg/L	2.5	2.7	107	80-120	
Sulfate	mg/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2012450 2012451

Parameter	Units	7572332001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	11100	12500	12500	23700	23600	101	100	80-120	0	15	
Fluoride	mg/L	ND	6250	6250	6780	6760	108	108	80-120	0	15	
Sulfate	mg/L	3300	12500	12500	15600	15500	98	98	80-120	1	15	

SAMPLE DUPLICATE: 2012452

Parameter	Units	7572332002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	3320	3320	0	15	
Fluoride	mg/L	ND	ND		15	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: Burlington/25216066.17
Pace Project No.: 60251146

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.

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

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.17
Pace Project No.: 60251146

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60251146001	MW-301		492154		
60251146002	MW-302		492154		
60251146003	MW-303		492154		
60251146004	MW-304		492154		
60251146005	MW-305		492154		
60251146006	MW-306		492154		
60251146007	MW-307		492154		
60251146008	MW-308		492154		
60251146009	MW-309		492154		
60251146010	MW-310		492154		
60251146011	MW-311		492154		
60251146001	MW-301	EPA 3010	491351	EPA 6010	491533
60251146002	MW-302	EPA 3010	491351	EPA 6010	491533
60251146003	MW-303	EPA 3010	491351	EPA 6010	491533
60251146004	MW-304	EPA 3010	491351	EPA 6010	491533
60251146005	MW-305	EPA 3010	491351	EPA 6010	491533
60251146006	MW-306	EPA 3010	491351	EPA 6010	491533
60251146007	MW-307	EPA 3010	491351	EPA 6010	491533
60251146008	MW-308	EPA 3010	491351	EPA 6010	491533
60251146009	MW-309	EPA 3010	491351	EPA 6010	491533
60251146010	MW-310	EPA 3010	491351	EPA 6010	491533
60251146011	MW-311	EPA 3010	491351	EPA 6010	491533
60251146012	FIELD BLANK	EPA 3010	491351	EPA 6010	491533
60251146001	MW-301	EPA 3010	491478	EPA 6020	491603
60251146002	MW-302	EPA 3010	491478	EPA 6020	491603
60251146003	MW-303	EPA 3010	491478	EPA 6020	491603
60251146004	MW-304	EPA 3010	491478	EPA 6020	491603
60251146005	MW-305	EPA 3010	491478	EPA 6020	491603
60251146006	MW-306	EPA 3010	491478	EPA 6020	491603
60251146007	MW-307	EPA 3010	491478	EPA 6020	491603
60251146008	MW-308	EPA 3010	491478	EPA 6020	491603
60251146009	MW-309	EPA 3010	491478	EPA 6020	491603
60251146010	MW-310	EPA 3010	491478	EPA 6020	491603
60251146011	MW-311	EPA 3010	491478	EPA 6020	491603
60251146012	FIELD BLANK	EPA 3010	491478	EPA 6020	491603
60251146001	MW-301	EPA 7470	491727	EPA 7470	491808
60251146002	MW-302	EPA 7470	491727	EPA 7470	491808
60251146003	MW-303	EPA 7470	491727	EPA 7470	491808
60251146004	MW-304	EPA 7470	491727	EPA 7470	491808
60251146005	MW-305	EPA 7470	491727	EPA 7470	491808
60251146006	MW-306	EPA 7470	491727	EPA 7470	491808
60251146007	MW-307	EPA 7470	491727	EPA 7470	491808
60251146008	MW-308	EPA 7470	491727	EPA 7470	491808
60251146009	MW-309	EPA 7470	491727	EPA 7470	491808
60251146010	MW-310	EPA 7470	491727	EPA 7470	491808
60251146011	MW-311	EPA 7470	491727	EPA 7470	491808
60251146012	FIELD BLANK	EPA 7470	491727	EPA 7470	491808

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.17
Pace Project No.: 60251146

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60251146001	**MW-301**	SM 2540C	490479		
60251146002	**MW-302**	SM 2540C	490385		
60251146003	**MW-303**	SM 2540C	490385		
60251146004	**MW-304**	SM 2540C	490385		
60251146005	**MW-305**	SM 2540C	490479		
60251146006	**MW-306**	SM 2540C	490479		
60251146007	**MW-307**	SM 2540C	490479		
60251146008	**MW-308**	SM 2540C	490479		
60251146009	**MW-309**	SM 2540C	490479		
60251146010	**MW-310**	SM 2540C	490479		
60251146011	**MW-311**	SM 2540C	490479		
60251146012	**FIELD BLANK**	SM 2540C	490479		
60251146001	**MW-301**	EPA 9040	491088		
60251146002	**MW-302**	EPA 9040	491088		
60251146003	**MW-303**	EPA 9040	491088		
60251146004	**MW-304**	EPA 9040	491088		
60251146005	**MW-305**	EPA 9040	491088		
60251146006	**MW-306**	EPA 9040	491088		
60251146007	**MW-307**	EPA 9040	491088		
60251146008	**MW-308**	EPA 9040	491088		
60251146009	**MW-309**	EPA 9040	491088		
60251146010	**MW-310**	EPA 9040	491088		
60251146011	**MW-311**	EPA 9040	491088		
60251146012	**FIELD BLANK**	EPA 9040	491088		
60251146001	**MW-301**	EPA 9056	491642		
60251146002	**MW-302**	EPA 9056	491642		
60251146003	**MW-303**	EPA 9056	491642		
60251146004	**MW-304**	EPA 9056	491642		
60251146005	**MW-305**	EPA 9056	491642		
60251146006	**MW-306**	EPA 9056	491642		
60251146007	**MW-307**	EPA 9056	491642		
60251146008	**MW-308**	EPA 9056	491642		
60251146009	**MW-309**	EPA 9056	491642		
60251146010	**MW-310**	EPA 9056	491642		
60251146011	**MW-311**	EPA 9056	491642		
60251146012	**FIELD BLANK**	EPA 9056	491642		

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Sample Condition Upon Receipt

WO#: 60251146

60251146

Client Name: SCS

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7285 6595 3940, 3939 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: CF 0.0 T-266 / CF +0.3 T-239 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.2/2.3 **Corr. Factor** CF 0.0 / CF +0.3 **Corrected** 1.2/2.3

Date and initials of person examining contents: PM 8/17/17

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	pH
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	
Cyanide water sample checks: ☑ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: [signature] Date: 8-17-17

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

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:	25216066.17

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 Total Metals: B-Ca-Li	6020 Total Metals *	7470 Total Hg	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	N						60251146
1	MW-301	WT	G	xxx	xxx	8/16/17	0900		3	1		2						X	X	X	X	X	X			2BP3N20 1BP2N 01
2	MW-302	WT	G	xxx	xxx	8/15/17	2030		3	1		2						X	X	X	X	X	X			02
3	MW-303	WT	G	xxx	xxx	8/15/17	2000		3	1		2						X	X	X	X	X	X			03
4	MW-304	WT	G	xxx	xxx	8/15/17	1845		3	1		2						X	X	X	X	X	X			04
5	MW-305	WT	G	xxx	xxx	8/16/17	1050		3	1		2						X	X	X	X	X	X			05
6	MW-306	WT	G	xxx	xxx	8/16/17	1240		3	1		2						X	X	X	X	X	X			06
7	MW-307	WT	G	xxx	xxx	8/16/17	1145		3	1		2						X	X	X	X	X	X			07
8	MW-308	WT	G	xxx	xxx	8/16/17	0950		3	1		2						X	X	X	X	X	X			08
9	MW-309	WT	G	xxx	xxx	8/16/17	1325		3	1		2						X	X	X	X	X	X			09
10	MW-310	WT	G	xxx	xxx	8/16/17	1435		4	1		3						X	X	X	X	X	X			3BP3N20 010
11	MW-311	WT	G	xxx	xxx	8/16/17	1410		3	1		2						X	X	X	X	X	X			011
12	FIELD BLANK	WT	G	xxx	xxx	8/16/17	1225		3	1		2						X	X	X	X	X	X			012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Kyle Kramer	8/16/17	1735		8/17/17	0955	1-2	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl							2-3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: Kyle Kramer DATE Signed (MM/DD/YY): 8-16-17

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

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

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

September 10, 2017

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.00
Pace Project No.: 60251196

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on August 17, 2017. 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
1(913)563-1405
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Kyle Kramer, SCS Engineers
Jeff Maxted, Alliant Energy

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: Burlington/25216066.00
Pace Project No.: 60251196

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60251196001	**MW-301**	Water	08/16/17 09:00	08/17/17 09:55
60251196002	**MW-302**	Water	08/15/17 20:30	08/17/17 09:55
60251196003	**MW-303**	Water	08/15/17 20:00	08/17/17 09:55
60251196004	**MW-304**	Water	08/15/17 18:45	08/17/17 09:55
60251196005	**MW-305**	Water	08/16/17 10:50	08/17/17 09:55
60251196006	**MW-306**	Water	08/16/17 12:40	08/17/17 09:55
60251196007	**MW-307**	Water	08/16/17 11:45	08/17/17 09:55
60251196008	**MW-308**	Water	08/16/17 09:50	08/17/17 09:55
60251196009	**MW-309**	Water	08/16/17 13:25	08/17/17 09:55
60251196010	**MW-310**	Water	08/16/17 14:35	08/17/17 09:55
60251196011	**MW-311**	Water	08/16/17 14:10	08/17/17 09:55
60251196012	**FIELD BLANK**	Water	08/16/17 12:25	08/17/17 09:55

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.00
Pace Project No.: 60251196

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60251196001	MW-301	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196002	MW-302	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196003	MW-303	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196004	MW-304	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196005	MW-305	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196006	MW-306	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196007	MW-307	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196008	MW-308	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196009	MW-309	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196010	MW-310	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196011	MW-311	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60251196012	FIELD BLANK	EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-301 **Lab ID: 60251196001** Collected: 08/16/17 09:00 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**1.14 ± 0.589 (0.494) C:NA T:86%**	pCi/L	08/29/17 20:47	13982-63-3	
Radium-228	EPA 904.0	**0.671 ± 0.409 (0.765) C:77% T:79%**	pCi/L	09/01/17 15:46	15262-20-1	
Total Radium	Total Radium Calculation	**1.81 ± 0.998 (1.26)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-302 **Lab ID: 60251196002** Collected: 08/15/17 20:30 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.238 ± 0.331 (0.553) C:NA T:94%**	pCi/L	08/29/17 21:02	13982-63-3	
Radium-228	EPA 904.0	**0.962 ± 0.432 (0.713) C:76% T:87%**	pCi/L	09/01/17 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**1.20 ± 0.763 (1.27)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-303 **Lab ID: 60251196003** Collected: 08/15/17 20:00 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**1.37 ± 0.771 (0.990) C:NA T:90%**	pCi/L	08/29/17 21:02	13982-63-3	
Radium-228	EPA 904.0	**0.821 ± 0.400 (0.692) C:77% T:86%**	pCi/L	09/01/17 15:40	15262-20-1	
Total Radium	Total Radium Calculation	**2.19 ± 1.17 (1.68)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-304 **Lab ID: 60251196004** Collected: 08/15/17 18:45 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.404 ± 0.459 (0.724) C:NA T:86%**	pCi/L	08/29/17 21:02	13982-63-3	
Radium-228	EPA 904.0	**0.348 ± 0.453 (0.968) C:76% T:80%**	pCi/L	09/01/17 15:41	15262-20-1	
Total Radium	Total Radium Calculation	**0.752 ± 0.912 (1.69)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-305 **Lab ID: 60251196005** Collected: 08/16/17 10:50 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.454 ± 0.461 (0.698) C:NA T:90%**	pCi/L	08/29/17 21:02	13982-63-3	
Radium-228	EPA 904.0	**0.683 ± 0.392 (0.714) C:77% T:85%**	pCi/L	09/01/17 15:41	15262-20-1	
Total Radium	Total Radium Calculation	**1.14 ± 0.853 (1.41)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-306 **Lab ID: 60251196006** Collected: 08/16/17 12:40 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.424 ± 0.318 (0.164) C:NA T:92%**	pCi/L	08/29/17 21:02	13982-63-3	
Radium-228	EPA 904.0	**0.604 ± 0.381 (0.714) C:74% T:83%**	pCi/L	09/01/17 15:41	15262-20-1	
Total Radium	Total Radium Calculation	**1.03 ± 0.699 (0.878)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-307 **Lab ID: 60251196007** Collected: 08/16/17 11:45 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.393 ± 0.366 (0.482) C:NA T:82%**	pCi/L	08/29/17 21:02	13982-63-3	
Radium-228	EPA 904.0	**0.280 ± 0.581 (1.28) C:77% T:47%**	pCi/L	09/01/17 15:41	15262-20-1	
Total Radium	Total Radium Calculation	**0.673 ± 0.947 (1.76)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-308 **Lab ID: 60251196008** Collected: 08/16/17 09:50 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0630 ± 0.509 (1.000) C:NA T:89%**	pCi/L	08/29/17 21:16	13982-63-3	
Radium-228	EPA 904.0	**0.166 ± 0.508 (1.14) C:74% T:56%**	pCi/L	09/01/17 15:41	15262-20-1	
Total Radium	Total Radium Calculation	**0.229 ± 1.02 (2.14)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-309 **Lab ID: 60251196009** Collected: 08/16/17 13:25 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.615 ± 0.588 (0.896) C:NA T:79%**	pCi/L	08/29/17 21:16	13982-63-3	
Radium-228	EPA 904.0	**0.470 ± 0.345 (0.669) C:68% T:89%**	pCi/L	09/01/17 15:41	15262-20-1	
Total Radium	Total Radium Calculation	**1.09 ± 0.933 (1.57)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-310 **Lab ID: 60251196010** Collected: 08/16/17 14:35 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.793 ± 0.441 (0.165) C:NA T:93%**	pCi/L	08/29/17 21:16	13982-63-3	
Radium-228	EPA 904.0	**1.42 ± 0.540 (0.848) C:74% T:85%**	pCi/L	09/01/17 15:41	15262-20-1	
Total Radium	Total Radium Calculation	**2.21 ± 0.981 (1.01)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: MW-311 **Lab ID: 60251196011** Collected: 08/16/17 14:10 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.653 ± 0.450 (0.481) C:NA T:86%**	pCi/L	08/29/17 21:16	13982-63-3	
Radium-228	EPA 904.0	**0.349 ± 0.312 (0.630) C:74% T:91%**	pCi/L	09/01/17 15:41	15262-20-1	
Total Radium	Total Radium Calculation	**1.00 ± 0.762 (1.11)**	pCi/L	09/10/17 12:52	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

Sample: FIELD BLANK **Lab ID: 60251196012** Collected: 08/16/17 12:25 Received: 08/17/17 09:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0627 ± 0.286 (0.461) C:NA T:92%**	pCi/L	08/29/17 21:16	13982-63-3	
Radium-228	EPA 904.0	**0.445 ± 0.348 (0.686) C:75% T:84%**	pCi/L	09/01/17 15:42	15262-20-1	
Total Radium	Total Radium Calculation	**0.508 ± 0.634 (1.15)**	pCi/L	09/10/17 12:52	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

QC Batch: 269145 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60251196001, 60251196002, 60251196003, 60251196004, 60251196005, 60251196006, 60251196007, 60251196008, 60251196009, 60251196010, 60251196011, 60251196012

METHOD BLANK: 1324788 Matrix: Water
Associated Lab Samples: 60251196001, 60251196002, 60251196003, 60251196004, 60251196005, 60251196006, 60251196007, 60251196008, 60251196009, 60251196010, 60251196011, 60251196012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.560 ± 0.480 (0.650) C:NA T:80%	pCi/L	08/29/17 20:30	

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 - RADIOCHEMISTRY

Project: Burlington/25216066.00
Pace Project No.: 60251196

QC Batch: 269258 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60251196001, 60251196002, 60251196003, 60251196004, 60251196005, 60251196006, 60251196007, 60251196008, 60251196009, 60251196010, 60251196011, 60251196012

METHOD BLANK: 1325054 Matrix: Water
Associated Lab Samples: 60251196001, 60251196002, 60251196003, 60251196004, 60251196005, 60251196006, 60251196007, 60251196008, 60251196009, 60251196010, 60251196011, 60251196012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.363 ± 0.370 (0.765) C:77% T:75%	pCi/L	09/01/17 15:46	

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/25216066.00
Pace Project No.: 60251196

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.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.00
Pace Project No.: 60251196

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60251196001	**MW-301**	EPA 903.1	269145		
60251196002	**MW-302**	EPA 903.1	269145		
60251196003	**MW-303**	EPA 903.1	269145		
60251196004	**MW-304**	EPA 903.1	269145		
60251196005	**MW-305**	EPA 903.1	269145		
60251196006	**MW-306**	EPA 903.1	269145		
60251196007	**MW-307**	EPA 903.1	269145		
60251196008	**MW-308**	EPA 903.1	269145		
60251196009	**MW-309**	EPA 903.1	269145		
60251196010	**MW-310**	EPA 903.1	269145		
60251196011	**MW-311**	EPA 903.1	269145		
60251196012	**FIELD BLANK**	EPA 903.1	269145		
60251196001	**MW-301**	EPA 904.0	269258		
60251196002	**MW-302**	EPA 904.0	269258		
60251196003	**MW-303**	EPA 904.0	269258		
60251196004	**MW-304**	EPA 904.0	269258		
60251196005	**MW-305**	EPA 904.0	269258		
60251196006	**MW-306**	EPA 904.0	269258		
60251196007	**MW-307**	EPA 904.0	269258		
60251196008	**MW-308**	EPA 904.0	269258		
60251196009	**MW-309**	EPA 904.0	269258		
60251196010	**MW-310**	EPA 904.0	269258		
60251196011	**MW-311**	EPA 904.0	269258		
60251196012	**FIELD BLANK**	EPA 904.0	269258		
60251196001	**MW-301**	Total Radium Calculation	271118		
60251196002	**MW-302**	Total Radium Calculation	271118		
60251196003	**MW-303**	Total Radium Calculation	271118		
60251196004	**MW-304**	Total Radium Calculation	271118		
60251196005	**MW-305**	Total Radium Calculation	271118		
60251196006	**MW-306**	Total Radium Calculation	271118		
60251196007	**MW-307**	Total Radium Calculation	271118		
60251196008	**MW-308**	Total Radium Calculation	271118		
60251196009	**MW-309**	Total Radium Calculation	271118		
60251196010	**MW-310**	Total Radium Calculation	271118		
60251196011	**MW-311**	Total Radium Calculation	271118		
60251196012	**FIELD BLANK**	Total Radium Calculation	271118		

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Sample Condition Upon Receipt

WO# : 60251196

60251196

Client Name: SCS Eng

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7285 6595 3871, 3906 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: CF 0.0 T-266 / CF +0.3 T-239 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 19.4/17.2 **Corr. Factor** CF 0.0 CF +0.3 **Corrected** 19.4/17.2

Date and initials of person examining contents: DP 8/17/17

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	
Cyanide water sample checks: ☑ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: _____ Date: 8-18-17

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

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:	25216066.00.

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	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	903.1 Radium-226	904.0 Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 6025496
1	MW-301	WT	G	xxx	xxx	8/16/17	0900		2			2							X	X	X		2BPIN 01
2	MW-302	WT	G	xxx	xxx	8/16/17	2030		2			2							X	X	X		02
3	MW-303	WT	G	xxx	xxx	8/15/17	2000		2			2							X	X	X		03
4	MW-304	WT	G	xxx	xxx	8/15/17	1845		2			2							X	X	X		04
5	MW-305	WT	G	xxx	xxx	8/16/17	1050		2			2							X	X	X		05
6	MW-306	WT	G	xxx	xxx	8/16/17	1240		2			2							X	X	X		06
7	MW-307	WT	G	xxx	xxx	8/16/17	1145		2			2							X	X	X		07
8	MW-308	WT	G	xxx	xxx	8/16/17	0950		2			2							X	X	X		08
9	MW-309	WT	G	xxx	xxx	8/16/17	1325		2			2							X	X	X		09
10	MW-310	WT	G	xxx	xxx	8/16/17	1435		2			2							X	X	X		010
11	MW-311	WT	G	xxx	xxx	8/16/17	1410		2			2							X	X	X		011
12	FIELD BLANK	WT	G	xxx	xxx	8/16/17	1225		2			2							X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	[signature]	8/16/17	1735	[signature]	8/17/17	0955	19.4	N	X	Y
							17.2	N	X	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: [signature] Kyle Kramer

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 8/16/17

*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

Chain of Custody

WO#:30227690

Pace Analytical
www.pacelabs.com

Workorder: 60251196 **Workorder Name:** Burlington/25216066.00 **Owner Received Date:** 8/17/2017 **Results Requested By:** 9/12/2017

Report To	Subcontract To
Trudy Gipson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 1(913)563-1405	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis 903.1 Radium-226	904.0 Radium-228	Total Radium										LAB USE ONLY
1	MW-301	PS	8/16/2017 09:00	60251196001	Water	2						X	X	X										001
2	MW-302	PS	8/15/2017 20:30	60251196002	Water	2						X	X	X										002
3	MW-303	PS	8/15/2017 20:00	60251196003	Water	2						X	X	X										003
4	MW-304	PS	8/15/2017 18:45	60251196004	Water	2						X	X	X										004
5	MW-305	PS	8/16/2017 10:50	60251196005	Water	2						X	X	X										005
6	MW-306	PS	8/16/2017 12:40	60251196006	Water	2						X	X	X										006
7	MW-307	PS	8/16/2017 11:45	60251196007	Water	2						X	X	X										007
8	MW-308	PS	8/16/2017 09:50	60251196008	Water	2						X	X	X										008
9	MW-309	PS	8/16/2017 13:25	60251196009	Water	2						X	X	X										009
10	MW-310	PS	8/16/2017 14:35	60251196010	Water	2						X	X	X										010
11	MW-311	PS	8/16/2017 14:10	60251196011	Water	2						X	X	X										011
12	FIELD BLANK	PS	8/16/2017 12:25	60251196012	Water	2						X	X	X										012

Transfers	Released By	Date/Time	Received	Date/Time
1	[signature]	8/18/17 1700	[signature]	8/19/17 1040
2				
3				

Comments

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

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

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: PACE, US Project #30227690

ZH 8/19/17

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

Label ZH

LIMS Login BVM

Tracking #: N/A

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

Thermometer Used N/A Type of Ice: Wet Blue None

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ZH 8/19/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			pH<2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZH / Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZH / Date: 8/19/17

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

A9 Fall 2017 Detection Sampling, Analytical Laboratory Report

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 30, 2017

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.17
Pace Project No.: 60255827

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on October 18, 2017. 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,

Trudy Gipson

Trudy Gipson
trudy.gipson@pacelabs.com
1(913)563-1405
Project Manager

Enclosures

cc: Tom Karwaski, SCS Engineers
Kyle Kramer, SCS Engineers
Jeff Maxted, Alliant Energy

Pace Analytical Services, LLC
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Lenexa, KS 66219
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CERTIFICATIONS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 17-016-0
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212018-1
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: Burlington/25216066.17
Pace Project No.: 60255827

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60255827001	**MW-301**	Water	10/16/17 16:00	10/18/17 09:00
60255827002	**MW-302**	Water	10/17/17 10:20	10/18/17 09:00
60255827003	**MW-303**	Water	10/17/17 09:05	10/18/17 09:00
60255827004	**MW-304**	Water	10/17/17 08:30	10/18/17 09:00
60255827005	**MW-305**	Water	10/16/17 15:23	10/18/17 09:00
60255827006	**MW-306**	Water	10/16/17 17:20	10/18/17 09:00
60255827007	**MW-307**	Water	10/16/17 17:00	10/18/17 09:00
60255827008	**MW-308**	Water	10/17/17 10:50	10/18/17 09:00
60255827009	**MW-309**	Water	10/17/17 11:35	10/18/17 09:00
60255827010	**MW-310**	Water	10/16/17 19:00	10/18/17 09:00
60255827011	**MW-311**	Water	10/16/17 18:35	10/18/17 09:00
60255827012	**FIELD BLANK**	Water	10/17/17 10:45	10/18/17 09:00

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.17
Pace Project No.: 60255827

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60255827001	**MW-301**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827002	**MW-302**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827003	**MW-303**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827004	**MW-304**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827005	**MW-305**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827006	**MW-306**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827007	**MW-307**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827008	**MW-308**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827009	**MW-309**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827010	**MW-310**	EPA 6010	TDS	2	PASI-K

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.17
Pace Project No.: 60255827

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827011	**MW-311**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K
60255827012	**FIELD BLANK**	EPA 6010	TDS	2	PASI-K
		SM 2540C	JSS	1	PASI-K
		EPA 9040	HMM	1	PASI-K
		EPA 9056	OL	3	PASI-K

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-301 **Lab ID: 60255827001** Collected: 10/16/17 16:00 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/16/17 16:00		
Field pH	**7.58**	Std. Units	0.10	0.050	1		10/16/17 16:00		
Field Temperature	**13.8**	deg C	0.50	0.25	1		10/16/17 16:00		
Field Specific Conductance	**1065**	umhos/cm	1.0	1.0	1		10/16/17 16:00		
Field Oxidation Potential	**38.0**	mV			1		10/16/17 16:00		
Oxygen, Dissolved	**0.12**	mg/L			1		10/16/17 16:00	7782-44-7	
Turbidity	**1.26**	NTU	1.0	1.0	1		10/16/17 16:00		
Groundwater Elevation	**522.13**	feet			1		10/16/17 16:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**9900**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 12:33	7440-42-8	M1
Calcium	**140**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 12:33	7440-70-2	M1
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**780**	mg/L	5.0	5.0	1		10/20/17 12:07		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		10/21/17 10:08		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**22.0**	mg/L	2.0	1.0	2		10/29/17 17:11	16887-00-6	
Fluoride	**0.27**	mg/L	0.20	0.10	1		10/28/17 23:54	16984-48-8	
Sulfate	**454**	mg/L	50.0	25.0	50		10/29/17 17:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-302 **Lab ID: 60255827002** Collected: 10/17/17 10:20 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/17/17 10:20		
Field pH	**8.72**	Std. Units	0.10	0.050	1		10/17/17 10:20		
Field Temperature	**13.9**	deg C	0.50	0.25	1		10/17/17 10:20		
Field Specific Conductance	**1165**	umhos/cm	1.0	1.0	1		10/17/17 10:20		
Field Oxidation Potential	**-49.7**	mV			1		10/17/17 10:20		
Oxygen, Dissolved	**0.09**	mg/L			1		10/17/17 10:20	7782-44-7	
Turbidity	**2.04**	NTU	1.0	1.0	1		10/17/17 10:20		
Groundwater Elevation	**522.20**	feet			1		10/17/17 10:20		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**10000**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 12:51	7440-42-8	
Calcium	**231**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 12:51	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**951**	mg/L	5.0	5.0	1		10/20/17 12:12		
9040 pH	Analytical Method: EPA 9040								
pH	**8.0**	Std. Units	0.10	0.10	1		10/21/17 10:12		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**16.4**	mg/L	1.0	0.50	1		10/29/17 00:09	16887-00-6	
Fluoride	**0.11J**	mg/L	0.20	0.10	1		10/29/17 00:09	16984-48-8	
Sulfate	**541**	mg/L	50.0	25.0	50		10/29/17 17:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-303 **Lab ID: 60255827003** Collected: 10/17/17 09:05 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/17/17 09:05		
Field pH	**8.59**	Std. Units	0.10	0.050	1		10/17/17 09:05		
Field Temperature	**14.5**	deg C	0.50	0.25	1		10/17/17 09:05		
Field Specific Conductance	**612.6**	umhos/cm	1.0	1.0	1		10/17/17 09:05		
Field Oxidation Potential	**21.3**	mV			1		10/17/17 09:05		
Oxygen, Dissolved	**0.13**	mg/L			1		10/17/17 09:05	7782-44-7	
Turbidity	**2.79**	NTU	1.0	1.0	1		10/17/17 09:05		
Groundwater Elevation	**522.23**	feet			1		10/17/17 09:05		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**25400**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 12:55	7440-42-8	
Calcium	**84.5**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 12:55	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**436**	mg/L	5.0	5.0	1		10/20/17 12:12		
9040 pH	Analytical Method: EPA 9040								
pH	**7.3**	Std. Units	0.10	0.10	1		10/21/17 10:13		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.3**	mg/L	1.0	0.50	1		10/29/17 00:24	16887-00-6	
Fluoride	**0.25**	mg/L	0.20	0.10	1		10/29/17 00:24	16984-48-8	
Sulfate	**42.1**	mg/L	5.0	2.5	5		10/29/17 18:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-304 **Lab ID: 60255827004** Collected: 10/17/17 08:30 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/17/17 08:30		
Field pH	**9.52**	Std. Units	0.10	0.050	1		10/17/17 08:30		
Field Temperature	**15.1**	deg C	0.50	0.25	1		10/17/17 08:30		
Field Specific Conductance	**756**	umhos/cm	1.0	1.0	1		10/17/17 08:30		
Field Oxidation Potential	**5.9**	mV			1		10/17/17 08:30		
Oxygen, Dissolved	**0.10**	mg/L			1		10/17/17 08:30	7782-44-7	
Turbidity	**1.89**	NTU	1.0	1.0	1		10/17/17 08:30		
Groundwater Elevation	**522.32**	feet			1		10/17/17 08:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5580**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 12:58	7440-42-8	
Calcium	**103**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 12:58	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**540**	mg/L	5.0	5.0	1		10/20/17 12:13		
9040 pH	Analytical Method: EPA 9040								
pH	**8.9**	Std. Units	0.10	0.10	1		10/21/17 10:15		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**46.5**	mg/L	5.0	2.5	5		10/29/17 19:25	16887-00-6	
Fluoride	**0.12J**	mg/L	0.20	0.10	1		10/29/17 00:39	16984-48-8	
Sulfate	**248**	mg/L	20.0	10.0	20		10/29/17 19:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-305 **Lab ID: 60255827005** Collected: 10/16/17 15:23 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/16/17 15:23		
Field pH	**7.78**	Std. Units	0.10	0.050	1		10/16/17 15:23		
Field Temperature	**15.1**	deg C	0.50	0.25	1		10/16/17 15:23		
Field Specific Conductance	**759**	umhos/cm	1.0	1.0	1		10/16/17 15:23		
Field Oxidation Potential	**44.9**	mV			1		10/16/17 15:23		
Oxygen, Dissolved	**0.14**	mg/L			1		10/16/17 15:23	7782-44-7	
Turbidity	**0.71**	NTU	1.0	1.0	1		10/16/17 15:23		
Groundwater Elevation	**522.48**	feet			1		10/16/17 15:23		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2480**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 13:02	7440-42-8	
Calcium	**92.2**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 13:02	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**437**	mg/L	5.0	5.0	1		10/20/17 12:08		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		10/21/17 10:16		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**35.8**	mg/L	2.0	1.0	2		10/29/17 19:55	16887-00-6	
Fluoride	**0.43**	mg/L	0.20	0.10	1		10/29/17 01:24	16984-48-8	
Sulfate	**24.6**	mg/L	2.0	1.0	2		10/29/17 19:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-306 **Lab ID: 60255827006** Collected: 10/16/17 17:20 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/16/17 17:20		
Field pH	**10.66**	Std. Units	0.10	0.050	1		10/16/17 17:20		
Field Temperature	**14.8**	deg C	0.50	0.25	1		10/16/17 17:20		
Field Specific Conductance	**447.9**	umhos/cm	1.0	1.0	1		10/16/17 17:20		
Field Oxidation Potential	**286.2**	mV			1		10/16/17 17:20		
Oxygen, Dissolved	**0.37**	mg/L			1		10/16/17 17:20	7782-44-7	
Turbidity	**0.35**	NTU	1.0	1.0	1		10/16/17 17:20		
Groundwater Elevation	**522.72**	feet			1		10/16/17 17:20		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3680**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 13:06	7440-42-8	
Calcium	**35.3**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 13:06	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**301**	mg/L	5.0	5.0	1		10/20/17 12:08		
9040 pH	Analytical Method: EPA 9040								
pH	**9.7**	Std. Units	0.10	0.10	1		10/21/17 10:17		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.6**	mg/L	2.0	1.0	2		10/29/17 20:10	16887-00-6	
Fluoride	**0.15J**	mg/L	0.20	0.10	1		10/29/17 01:39	16984-48-8	
Sulfate	**97.5**	mg/L	10.0	5.0	10		10/29/17 20:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-307 **Lab ID: 60255827007** Collected: 10/16/17 17:00 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/16/17 17:00		
Field pH	**10.46**	Std. Units	0.10	0.050	1		10/16/17 17:00		
Field Temperature	**14.7**	deg C	0.50	0.25	1		10/16/17 17:00		
Field Specific Conductance	**485.7**	umhos/cm	1.0	1.0	1		10/16/17 17:00		
Field Oxidation Potential	**-78.9**	mV			1		10/16/17 17:00		
Oxygen, Dissolved	**0.18**	mg/L			1		10/16/17 17:00	7782-44-7	
Turbidity	**0.32**	NTU	1.0	1.0	1		10/16/17 17:00		
Groundwater Elevation	**522.55**	feet			1		10/16/17 17:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3920**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 13:10	7440-42-8	
Calcium	**31.3**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 13:10	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**341**	mg/L	5.0	5.0	1		10/20/17 12:08		
9040 pH	Analytical Method: EPA 9040								
pH	**9.8**	Std. Units	0.10	0.10	1		10/21/17 10:19		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.8**	mg/L	2.0	1.0	2		10/29/17 20:40	16887-00-6	
Fluoride	**0.13J**	mg/L	0.20	0.10	1		10/29/17 01:54	16984-48-8	
Sulfate	**126**	mg/L	10.0	5.0	10		10/29/17 20:55	14808-79-8	

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-308 **Lab ID: 60255827008** Collected: 10/17/17 10:50 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/17/17 10:50		
Field pH	**9.75**	Std. Units	0.10	0.050	1		10/17/17 10:50		
Field Temperature	**14.6**	deg C	0.50	0.25	1		10/17/17 10:50		
Field Specific Conductance	**689**	umhos/cm	1.0	1.0	1		10/17/17 10:50		
Field Oxidation Potential	**-109.4**	mV			1		10/17/17 10:50		
Oxygen, Dissolved	**0.09**	mg/L			1		10/17/17 10:50	7782-44-7	
Turbidity	**0.60**	NTU	1.0	1.0	1		10/17/17 10:50		
Groundwater Elevation	**522.46**	feet			1		10/17/17 10:50		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4850**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 13:13	7440-42-8	
Calcium	**32.6**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 13:13	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**472**	mg/L	5.0	5.0	1		10/20/17 12:13		
9040 pH	Analytical Method: EPA 9040								
pH	**9.4**	Std. Units	0.10	0.10	1		10/21/17 10:20		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**38.2**	mg/L	5.0	2.5	5		10/29/17 21:10	16887-00-6	
Fluoride	**0.17J**	mg/L	0.20	0.10	1		10/29/17 02:09	16984-48-8	
Sulfate	**177**	mg/L	20.0	10.0	20		10/29/17 21:54	14808-79-8	

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-309 **Lab ID: 60255827009** Collected: 10/17/17 11:35 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/17/17 11:35		
Field pH	**8.50**	Std. Units	0.10	0.050	1		10/17/17 11:35		
Field Temperature	**14.6**	deg C	0.50	0.25	1		10/17/17 11:35		
Field Specific Conductance	**1058**	umhos/cm	1.0	1.0	1		10/17/17 11:35		
Field Oxidation Potential	**-31.0**	mV			1		10/17/17 11:35		
Oxygen, Dissolved	**0.08**	mg/L			1		10/17/17 11:35	7782-44-7	
Turbidity	**3.08**	NTU	1.0	1.0	1		10/17/17 11:35		
Groundwater Elevation	**522.67**	feet			1		10/17/17 11:35		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4400**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 13:17	7440-42-8	
Calcium	**101**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 13:17	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**671**	mg/L	5.0	5.0	1		10/20/17 12:14		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		10/21/17 10:21		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**85.4**	mg/L	10.0	5.0	10		10/29/17 22:09	16887-00-6	
Fluoride	**0.47**	mg/L	0.20	0.10	1		10/29/17 02:23	16984-48-8	
Sulfate	**149**	mg/L	10.0	5.0	10		10/29/17 22:09	14808-79-8	

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-310 **Lab ID: 60255827010** Collected: 10/16/17 19:00 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/16/17 19:00		
Field pH	**7.92**	Std. Units	0.10	0.050	1		10/16/17 19:00		
Field Temperature	**16.6**	deg C	0.50	0.25	1		10/16/17 19:00		
Field Specific Conductance	**791**	umhos/cm	1.0	1.0	1		10/16/17 19:00		
Field Oxidation Potential	**-63.6**	mV			1		10/16/17 19:00		
Oxygen, Dissolved	**0.16**	mg/L			1		10/16/17 19:00	7782-44-7	
Turbidity	**2.86**	NTU	1.0	1.0	1		10/16/17 19:00		
Groundwater Elevation	**525.49**	feet			1		10/16/17 19:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**305**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 13:21	7440-42-8	
Calcium	**105**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 13:21	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**445**	mg/L	5.0	5.0	1		10/20/17 12:09		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		10/21/17 10:23		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**38.3**	mg/L	5.0	2.5	5		10/29/17 22:39	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	0.10	1		10/29/17 02:38	16984-48-8	
Sulfate	**35.1**	mg/L	2.0	1.0	2		10/29/17 22:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: MW-311 **Lab ID: 60255827011** Collected: 10/16/17 18:35 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/16/17 18:35		
Field pH	**8.27**	Std. Units	0.10	0.050	1		10/16/17 18:35		
Field Temperature	**14.7**	deg C	0.50	0.25	1		10/16/17 18:35		
Field Specific Conductance	**972**	umhos/cm	1.0	1.0	1		10/16/17 18:35		
Field Oxidation Potential	**308.3**	mV			1		10/16/17 18:35		
Oxygen, Dissolved	**0.25**	mg/L			1		10/16/17 18:35	7782-44-7	
Turbidity	**2.19**	NTU	1.0	1.0	1		10/16/17 18:35		
Groundwater Elevation	**523.44**	feet			1		10/16/17 18:35		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2810**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 13:24	7440-42-8	
Calcium	**145**	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 13:24	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**615**	mg/L	5.0	5.0	1		10/20/17 12:09		
9040 pH	Analytical Method: EPA 9040								
pH	**7.4**	Std. Units	0.10	0.10	1		10/21/17 10:26		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**50.9**	mg/L	5.0	2.5	5		10/29/17 22:54	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.10	1		10/29/17 02:53	16984-48-8	
Sulfate	**119**	mg/L	10.0	5.0	10		10/29/17 23:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.17
Pace Project No.: 60255827

Sample: FIELD BLANK **Lab ID: 60255827012** Collected: 10/17/17 10:45 Received: 10/18/17 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**9.6J**	ug/L	100	3.5	1	10/23/17 17:10	10/24/17 13:36	7440-42-8	
Calcium	ND	mg/L	0.10	0.036	1	10/23/17 17:10	10/24/17 13:36	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	5.0	5.0	1		10/20/17 12:14		
9040 pH	Analytical Method: EPA 9040								
pH	**5.4**	Std. Units	0.10	0.10	1		10/21/17 10:28		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**0.66J**	mg/L	1.0	0.50	1		10/29/17 03:08	16887-00-6	
Fluoride	ND	mg/L	0.20	0.10	1		10/29/17 03:08	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/29/17 03:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60255827

QC Batch: 499923 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60255827001, 60255827002, 60255827003, 60255827004, 60255827005, 60255827006, 60255827007, 60255827008, 60255827009, 60255827010, 60255827011, 60255827012

METHOD BLANK: 2046041 Matrix: Water
Associated Lab Samples: 60255827001, 60255827002, 60255827003, 60255827004, 60255827005, 60255827006, 60255827007, 60255827008, 60255827009, 60255827010, 60255827011, 60255827012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	100	3.5	10/24/17 12:06	
Calcium	mg/L	ND	0.10	0.036	10/24/17 12:06	

LABORATORY CONTROL SAMPLE: 2046042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	954	95	80-120	
Calcium	mg/L	10	10.2	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2046043 2046044

Parameter	Units	60255827001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	9900	1000	1000	11300	11000	143	112	75-125	3	20	M1
Calcium	mg/L	140	10	10	155	151	150	107	75-125	3	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60255827

QC Batch: 499545 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60255827001, 60255827002, 60255827003, 60255827004, 60255827005, 60255827006, 60255827007, 60255827008, 60255827009, 60255827010, 60255827011, 60255827012

METHOD BLANK: 2044163 Matrix: Water
Associated Lab Samples: 60255827001, 60255827002, 60255827003, 60255827004, 60255827005, 60255827006, 60255827007, 60255827008, 60255827009, 60255827010, 60255827011, 60255827012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	5.0	10/20/17 12:05	

LABORATORY CONTROL SAMPLE: 2044164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	984	98	80-120	

SAMPLE DUPLICATE: 2044165

Parameter	Units	60255827001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	780	794	2	10	

SAMPLE DUPLICATE: 2044166

Parameter	Units	60255793014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1080	1070	1	10	

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60255827

QC Batch: 499690 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60255827001, 60255827002, 60255827003, 60255827004, 60255827005, 60255827006, 60255827007, 60255827008, 60255827009, 60255827010, 60255827011, 60255827012

SAMPLE DUPLICATE: 2045310

Parameter	Units	60255827001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.2	7.7	6	10	H6

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60255827

QC Batch: 500688 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60255827001, 60255827002, 60255827003, 60255827004, 60255827005, 60255827006, 60255827007, 60255827008, 60255827009, 60255827010, 60255827011, 60255827012

METHOD BLANK: 2049671 Matrix: Water
Associated Lab Samples: 60255827001, 60255827002, 60255827003, 60255827004, 60255827005, 60255827006, 60255827007, 60255827008, 60255827009, 60255827010, 60255827011, 60255827012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	10/28/17 21:40	
Fluoride	mg/L	ND	0.20	0.10	10/28/17 21:40	
Sulfate	mg/L	ND	1.0	0.50	10/28/17 21:40	

LABORATORY CONTROL SAMPLE: 2049672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	99	80-120	
Fluoride	mg/L	2.5	2.6	103	80-120	
Sulfate	mg/L	5	5.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2049673 2049674

Parameter	Units	2063367001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.53	2.5	2.5	3.0	3.0	97	98	80-120	1	15	

SAMPLE DUPLICATE: 2049675

Parameter	Units	2063367002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	1.05	ND		15	
Fluoride	mg/L	0.205	ND		15	

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QUALITY CONTROL DATA

Project: Burlington/25216066.17
Pace Project No.: 60255827

QC Batch: 500737 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60255827001, 60255827002, 60255827003, 60255827004, 60255827005, 60255827006, 60255827007, 60255827008, 60255827009, 60255827010, 60255827011

METHOD BLANK: 2050302 Matrix: Water
Associated Lab Samples: 60255827001, 60255827002, 60255827003, 60255827004, 60255827005, 60255827006, 60255827007, 60255827008, 60255827009, 60255827010, 60255827011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	10/29/17 16:12	
Sulfate	mg/L	ND	1.0	0.50	10/29/17 16:12	

LABORATORY CONTROL SAMPLE: 2050303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	80-120	
Sulfate	mg/L	5	5.1	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2050304 2050305

Parameter	Units	60255827002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	541	250	250	798	781	103	96	80-120	2	15	

SAMPLE DUPLICATE: 2050306

Parameter	Units	60255827003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	42.1	41.4	2	15	

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QUALIFIERS

Project: Burlington/25216066.17
Pace Project No.: 60255827

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.

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.17
Pace Project No.: 60255827

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60255827001	**MW-301**		500638		
60255827002	**MW-302**		500638		
60255827003	**MW-303**		500638		
60255827004	**MW-304**		500638		
60255827005	**MW-305**		500638		
60255827006	**MW-306**		500638		
60255827007	**MW-307**		500638		
60255827008	**MW-308**		500638		
60255827009	**MW-309**		500638		
60255827010	**MW-310**		500638		
60255827011	**MW-311**		500638		
60255827001	**MW-301**	EPA 3010	499923	EPA 6010	499984
60255827002	**MW-302**	EPA 3010	499923	EPA 6010	499984
60255827003	**MW-303**	EPA 3010	499923	EPA 6010	499984
60255827004	**MW-304**	EPA 3010	499923	EPA 6010	499984
60255827005	**MW-305**	EPA 3010	499923	EPA 6010	499984
60255827006	**MW-306**	EPA 3010	499923	EPA 6010	499984
60255827007	**MW-307**	EPA 3010	499923	EPA 6010	499984
60255827008	**MW-308**	EPA 3010	499923	EPA 6010	499984
60255827009	**MW-309**	EPA 3010	499923	EPA 6010	499984
60255827010	**MW-310**	EPA 3010	499923	EPA 6010	499984
60255827011	**MW-311**	EPA 3010	499923	EPA 6010	499984
60255827012	**FIELD BLANK**	EPA 3010	499923	EPA 6010	499984
60255827001	**MW-301**	SM 2540C	499545		
60255827002	**MW-302**	SM 2540C	499545		
60255827003	**MW-303**	SM 2540C	499545		
60255827004	**MW-304**	SM 2540C	499545		
60255827005	**MW-305**	SM 2540C	499545		
60255827006	**MW-306**	SM 2540C	499545		
60255827007	**MW-307**	SM 2540C	499545		
60255827008	**MW-308**	SM 2540C	499545		
60255827009	**MW-309**	SM 2540C	499545		
60255827010	**MW-310**	SM 2540C	499545		
60255827011	**MW-311**	SM 2540C	499545		
60255827012	**FIELD BLANK**	SM 2540C	499545		
60255827001	**MW-301**	EPA 9040	499690		
60255827002	**MW-302**	EPA 9040	499690		
60255827003	**MW-303**	EPA 9040	499690		
60255827004	**MW-304**	EPA 9040	499690		
60255827005	**MW-305**	EPA 9040	499690		
60255827006	**MW-306**	EPA 9040	499690		
60255827007	**MW-307**	EPA 9040	499690		
60255827008	**MW-308**	EPA 9040	499690		
60255827009	**MW-309**	EPA 9040	499690		
60255827010	**MW-310**	EPA 9040	499690		
60255827011	**MW-311**	EPA 9040	499690		
60255827012	**FIELD BLANK**	EPA 9040	499690		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.17
Pace Project No.: 60255827

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60255827001	**MW-301**	EPA 9056	500688		
60255827001	**MW-301**	EPA 9056	500737		
60255827002	**MW-302**	EPA 9056	500688		
60255827002	**MW-302**	EPA 9056	500737		
60255827003	**MW-303**	EPA 9056	500688		
60255827003	**MW-303**	EPA 9056	500737		
60255827004	**MW-304**	EPA 9056	500688		
60255827004	**MW-304**	EPA 9056	500737		
60255827005	**MW-305**	EPA 9056	500688		
60255827005	**MW-305**	EPA 9056	500737		
60255827006	**MW-306**	EPA 9056	500688		
60255827006	**MW-306**	EPA 9056	500737		
60255827007	**MW-307**	EPA 9056	500688		
60255827007	**MW-307**	EPA 9056	500737		
60255827008	**MW-308**	EPA 9056	500688		
60255827008	**MW-308**	EPA 9056	500737		
60255827009	**MW-309**	EPA 9056	500688		
60255827009	**MW-309**	EPA 9056	500737		
60255827010	**MW-310**	EPA 9056	500688		
60255827010	**MW-310**	EPA 9056	500737		
60255827011	**MW-311**	EPA 9056	500688		
60255827011	**MW-311**	EPA 9056	500737		
60255827012	**FIELD BLANK**	EPA 9056	500688		

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Sample Condition Upon Receipt

WO# : 60255827

60255827

Client Name: SCS Engineers

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7285 6597 9170 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: CF 0.0 T-266 / CF +0.3 T-239 **Type of Ice:** Wet Blue None

10-18-17

Cooler Temperature (°C): As-read 4.2 **Corr. Factor** CF 0.0 CF +0.3 **Corrected** 4.2

Date and initials of person examining contents:

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	plt
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	
Cyanide water sample checks: ☒ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐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: _____

Project Manager Review: JVS Date: 10-19-17

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 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:	25216066.17

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	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: 6010 Total Metals: B-Ca	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N						60255827
1	MW-301	WT	G	xxx	xxx	10.16	1600		2	1		1							X	X	X	X		BP2U, BP3U
2	MW-302	WT	G	xxx	xxx	10.17	1020		2	1		1							X	X	X	X		002
3	MW-303	WT	G	xxx	xxx	10.17	905		2	1		1							X	X	X	X		003
4	MW-304	WT	G	xxx	xxx	10.17	830		2	1		1							X	X	X	X		004
5	MW-305	WT	G	xxx	xxx	10.16	1523		2	1		1							X	X	X	X		005
6	MW-306	WT	G	xxx	xxx	10.16	1720		2	1		1							X	X	X	X		006
7	MW-307	WT	G	xxx	xxx	10.16	1700		2	1		1							X	X	X	X		007
8	MW-308	WT	G	xxx	xxx	10.17	1050		2	1		1							X	X	X	X		008
9	MW-309	WT	G	xxx	xxx	10.17	1135		2	1		1							X	X	X	X		009
10	MW-310	WT	G	xxx	xxx	10-16	1900		2	1		1							X	X	X	X		010
11	MW-311	WT	G	xxx	xxx	10.16	1835		2	1		1							X	X	X	X		011
12	FIELD BLANK	WT	G	xxx	xxx	10.17	1045		2	1		1							X	X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	SCS Engineers	10.17.17	1650		10/18	0900	4.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

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

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

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