2018 Annual Groundwater Monitoring and Corrective Action Report

Burlington Generating Station
Burlington, Iowa

Prepared for:

Alliant Energy

SCS ENGINEERS

25216066.18 | January 31, 2019

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

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Appendix A – Analytical Laboratory Reports

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1.0 INTRODUCTION

This 2018 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the Coal Combustion Residuals (CCR) Rule [40 CFR 257.50-107]. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.90(e). The applicable sections of the Rule are provided below in italics, followed by applicable information relative to the 2018 Annual Groundwater Monitoring and Corrective Action Report for the CCR units.

This report covers the period of groundwater monitoring from January 1, 2018, through December 31, 2018.

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 2018.

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

In addition to all the monitoring data obtained under §§ 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

Three groundwater sampling events were completed for the CCR units at the Burlington Generating Station in 2018. As described in Section 2.4, the site transitioned to an assessment monitoring program in 2018. The first round of assessment monitoring samples were collected in May 2018, and the second round was collected in August 2018. All of the CCR monitoring wells were sampled in October 2018 to continue the semiannual monitoring schedule established for the site.

Groundwater samples collected in the May, August, and October 2018 sampling events were analyzed for both Appendix III and Appendix IV constituents. A summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs is included in Table 1. The results of the analytical laboratory analyses are provided in the laboratory reports in Appendices A1 through A3.

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);

Detection monitoring for the Burlington Generating Station was initiated in October 2017. The statistical evaluation of the October 2017 detection monitoring results, completed on January 15, 2018, identified statistically significant increases (SSIs) in detection monitoring constituents at the downgradient wells. SSIs were identified for boron, calcium, fluoride, field pH, and sulfate at one or more wells based on the October 2017 detection monitoring event. IPL collected the first round of assessment monitoring sampling in April 2018 and established an assessment monitoring program on July 16, 2018, in accordance with §257.95(b).

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 2018 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 Assessment Monitoring.

Summary of Key Actions Completed.

- Statistical evaluation and determination of SSIs for the October 2017 monitoring event, completed January 15, 2018.
- Alternative source evaluation for the SSIs identified for the October 2017 detection monitoring event, completed April 16, 2018.
- Establishment of assessment monitoring program, completed July 16, 2018.
- Establishment of Groundwater Protection Standards (GPSs) for all detected Appendix IV constituents, completed October 15, 2018.
- Two semiannual groundwater sampling and analysis events (May and October 2018) plus the additional groundwater sampling event in August 2018 as specified in § 257.95(d)(1).

Description of Any Problems Encountered: No problems were encountered during the groundwater sampling events in 2018.

Discussion of Actions to Resolve the Problems. Not applicable.

Projection of Key Activities for the Upcoming Year (2019):

- Statistical evaluation and determination of any statistically significant levels exceeding the GPS for the May, August, and October 2018 monitoring events (by 1/14/19);
- Statistical evaluation and determination of any statistically significant levels exceeding the GPS for the April 2019 monitoring events (by 7/15/19);
- If one or more Appendix IV constituents is detected at a statistically significant level about the GPS, then within 30 days IPL will prepare a notification in accordance with §257.95(g) and within 90 days complete an alternative source demonstration or initiate an assessment of corrective measures ((§257.95(g)(3)). IPL will also characterize the release (§257.95(g)(1)) and notify property owners (§257.95(g)(2)) .
- Two semiannual groundwater sampling and analysis events (April and October 2019).

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. The CCR units at the Burlington Generating Station are no longer in the Detection Monitoring Program.

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

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

Not applicable. No alternative source demonstration was completed in 2018.

2.5.4 §257.95(c) Alternative Assessment Monitoring Frequency

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

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

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

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

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

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

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

Not applicable. No alternative source demonstration evaluation for assessment monitoring was completed in 2018.

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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Tables

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

Sample Dates	Downgradient Wells									Background Wells	
	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311
5/8-9/2018	A	A	A	A	A	A	A	A	A	A	A
8/13-14/2018	A	A	A	A	A	A	A	A	A	A	A
10/9-10/2018	A	A	A	A	A	A	A	A	A	A	A
Total Samples	3	3	3	3	3	3	3	3	3	3	3

Abbreviations:
A = Required by Detection Monitoring Program

Created by: TK Date: 12/29/2017
Last revision by: NDK Date: 1/4/2019
Checked by: MDB Date: 1/4/2019

I:\25216066.00\Deliverables\2018 Annual GW Report\Tables\[Table 1. GW_Samples_Summary_Table_BGS.xlsx]GW Summary

Table 2. Groundwater Protection Standards - CCR Program - Assessment Monitoring
Burlington Generating Station, Burlington, IA / SCS Engineers Project #25216066.18

Parameter Name	GPS	Source
Antimony, ug/L	6	MCL
Arsenic, ug/L	114.9	UPL
Barium, ug/L	2000	MCL
Beryllium, ug/L	4	MCL
Cadmium, ug/L	5	MCL
Chromium, ug/L	100	MCL
Cobalt, ug/L	6	40 CFR 257.95(h)(2)
Fluoride, mg/L	4	MCL
Lead, ug/L	15	40 CFR 257.95(h)(2)
Lithium, ug/L	40	40 CFR 257.95(h)(2)
Mercury, ug/L	2	MCL
Molybdenum, ug/L	100	40 CFR 257.95(h)(2)
Selenium, ug/L	50	MCL
Thallium, ug/L	2	MCL
Radium 226/228 Combined, pCi/L	5	MCL

Abbreviations:
GPS = Groundwater Protection Standard
MCL = Maximum Contaminant Level established under 40 CFR 141.62 and 141.66
UPL = Upper Prediction Limit. The arsenic UPL was calculated with eight rounds of background groundwater records. The Arsenic UPL is greater than the USEPA (Maximum Contamination Level) as the GPS.

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

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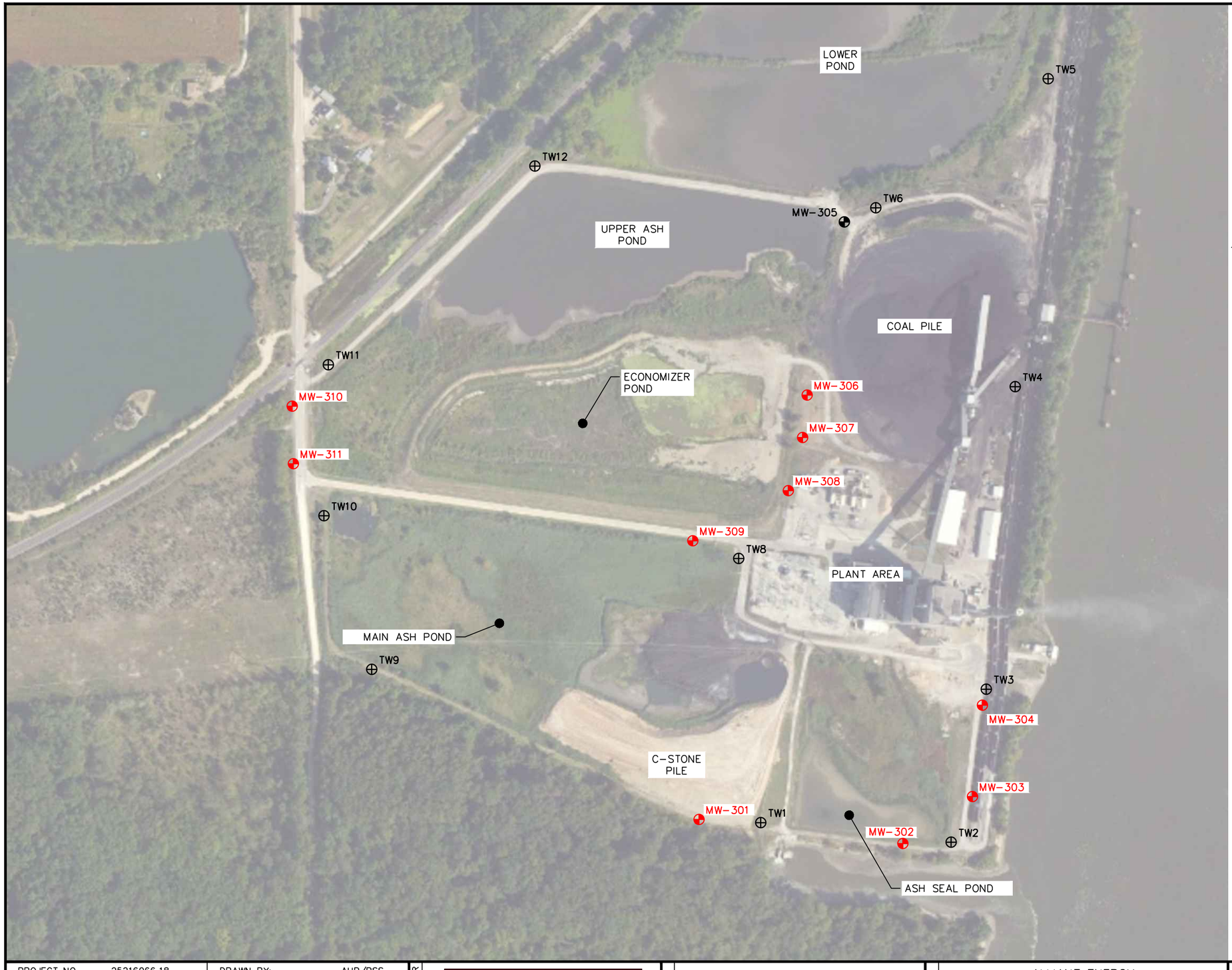
Figure 1

Site Plan and Monitoring Well Locations



LEGEND

- EXISTING MONITORING WELL LOCATION
- TEMPORARY MONITORING WELL LOCATION (ABANDONED MARCH 2016)
- EXISTING CCR RULE MONITORING WELL

NOTES:

1. TEMPORARY WELLS TW-1 THROUGH TW-6 AND TW-8 THROUGH TW-12 WERE INSTALLED BY DIRECT PUSH ANALYTICAL SERVICES CORP. UNDER THE SUPERVISION OF SCS ENGINEERS ON OCTOBER 20 AND 21, 2015. WELL TW-7 WAS NOT INSTALLED.
2. MONITORING WELLS MW-303 THROUGH MW-308 WERE INSTALLED BY CASCADE DRILLING, LLP. UNDER THE SUPERVISION OF SCS ENGINEERS ON DECEMBER 15-17, 2015.
3. MONITORING WELLS MW301, MW302, AND MW309-MW311 WERE INSTALLED BY DIRECT PUSH ANALYTICAL SERVICES CORP. UNDER THE SUPERVISION OF SCS ENGINEERS FROM FEBRUARY 29, 2016 TO MARCH 1, 2016.
5. TEMPORARY WELLS TW-1 THROUGH TW-6 AND TW-8 THROUGH TW-12 WERE SURVEYED BY FRENCH RENEKER-ASSOCIATES OF FRANKLIN, IA ON DECEMBER 7, 2015. THESE WELLS WERE ABANDONED ON MARCH 2, 2016.
6. MONITORING WELLS MW-301 THROUGH MW-311 WERE SURVEYED BY FRENCH-RENEKER ASSOCIATES OF FRANKLIN, IA ON MARCH 16, 2016.

N

300 0 300

SCALE: 1" = 300'

PROJECT NO.	25216066.18	DRAWN BY:	AHB/BSS
DRAWN:	04/01/16	CHECKED BY:	NK
REVISED:	01/10/19	APPROVED BY:	

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

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

SITE: ALLIANT ENERGY
BURLINGTON GENERATING STATION
BURLINGTON, IOWA

SITE PLAN AND MONITORING WELL LOCATIONS

FIGURE 1

I:\25216066.00\Drawings\CCR 2018 Annual Rpt.dwg, 1/10/2019 6:16:48 PM

Appendix A

Analytical Laboratory Reports

A1 Assessment Monitoring Round 1, May 2018

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

May 25, 2018

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.18
Pace Project No.: 60270064

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2018. 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
Nicole Kron, SCS Engineers
Jeff Maxted, Alliant Energy

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CERTIFICATIONS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Certification Number: 10090
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
Missouri Certification Number: 10090

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Burlington/25216066.18
Pace Project No.: 60270064

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60270064001	**MW-301**	Water	05/09/18 10:00	05/10/18 08:25
60270064002	**MW-302**	Water	05/09/18 09:25	05/10/18 08:25
60270064003	**MW-303**	Water	05/09/18 08:45	05/10/18 08:25
60270064004	**MW-304**	Water	05/09/18 08:10	05/10/18 08:25
60270064005	**MW-305**	Water	05/09/18 11:55	05/10/18 08:25
60270064006	**MW-306**	Water	05/09/18 11:10	05/10/18 08:25
60270064007	**MW-307**	Water	05/09/18 10:45	05/10/18 08:25
60270064008	**MW-308**	Water	05/08/18 19:25	05/10/18 08:25
60270064009	**MW-309**	Water	05/08/18 19:05	05/10/18 08:25
60270064010	**MW-310**	Water	05/08/18 17:30	05/10/18 08:25
60270064011	**MW-311**	Water	05/08/18 18:20	05/10/18 08:25
60270064012	**FIELD BLANK**	Water	05/09/18 11:20	05/10/18 08:25

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.18
Pace Project No.: 60270064

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60270064001	**MW-301**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	MJK	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064002	**MW-302**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	MJK	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064003	**MW-303**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	MJK	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064004	**MW-304**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	MJK	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064005	**MW-305**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	MJK	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064006	**MW-306**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	MJK	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064007	**MW-307**	EPA 6010	TDS	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.18
Pace Project No.: 60270064

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	MJK	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064008	**MW-308**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	LDB	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064009	**MW-309**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	LDB	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064010	**MW-310**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	LDB	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064011	**MW-311**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	LDB	1	PASI-K
		EPA 9056	OL	3	PASI-K
60270064012	**FIELD BLANK**	EPA 6010	TDS	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	SMW	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 9040	LDB	1	PASI-K
		EPA 9056	OL	3	PASI-K

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Sample: MW-301 **Lab ID: 60270064001** Collected: 05/09/18 10:00 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/09/18 10:00		
Field pH	**7.4**	Std. Units	0.10	0.050	1		05/09/18 10:00		
Field Temperature	**12.9**	deg C	0.50	0.25	1		05/09/18 10:00		
Field Specific Conductance	**600.8**	umhos/cm	1.0	1.0	1		05/09/18 10:00		
Field Oxidation Potential	**-167.1**	mV			1		05/09/18 10:00		
Oxygen, Dissolved	**0.08**	mg/L			1		05/09/18 10:00	7782-44-7	
Turbidity	**4.23**	NTU	1.0	1.0	1		05/09/18 10:00		
Groundwater Elevation	**525.51**	feet			1		05/09/18 10:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**9140**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 19:31	7440-42-8	
Calcium	**85.3**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 19:31	7440-70-2	
Lithium	**17.8**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 19:31	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.026**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 15:42	7440-36-0	
Arsenic	**34.9**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 15:42	7440-38-2	
Barium	**198**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 15:42	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 15:42	7440-41-7	
Cadmium	**0.040J**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 15:42	7440-43-9	
Chromium	**0.25J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 15:42	7440-47-3	B
Cobalt	**0.15J**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 15:42	7440-48-4	
Lead	**0.17J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 15:42	7439-92-1	
Molybdenum	**113**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 15:42	7439-98-7	
Selenium	**0.25J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 15:42	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 15:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:15	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**568**	mg/L	5.0	5.0	1		05/14/18 11:36		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		05/11/18 11:01		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**22.7**	mg/L	2.0	0.92	2		05/20/18 13:51	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.063	1		05/19/18 18:42	16984-48-8	
Sulfate	**188**	mg/L	20.0	4.7	20		05/20/18 14:06	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/25216066.18
Pace Project No.: 60270064

Sample: MW-302 **Lab ID: 60270064002** Collected: 05/09/18 09:25 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/09/18 09:25		
Field pH	**8.19**	Std. Units	0.10	0.050	1		05/09/18 09:25		
Field Temperature	**13**	deg C	0.50	0.25	1		05/09/18 09:25		
Field Specific Conductance	**1268**	umhos/cm	1.0	1.0	1		05/09/18 09:25		
Field Oxidation Potential	**-217.2**	mV			1		05/09/18 09:25		
Oxygen, Dissolved	**1**	mg/L			1		05/09/18 09:25	7782-44-7	
Turbidity	**2.25**	NTU	1.0	1.0	1		05/09/18 09:25		
Groundwater Elevation	**525.81**	feet			1		05/09/18 09:25		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**10200**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 19:37	7440-42-8	
Calcium	**231**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 19:37	7440-70-2	
Lithium	**65.4**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 19:37	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.026**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 15:46	7440-36-0	
Arsenic	**56.2**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 15:46	7440-38-2	
Barium	**363**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 15:46	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 15:46	7440-41-7	
Cadmium	**0.037J**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 15:46	7440-43-9	
Chromium	**0.22J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 15:46	7440-47-3	B
Cobalt	**0.19J**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 15:46	7440-48-4	
Lead	**0.17J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 15:46	7439-92-1	
Molybdenum	**118**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 15:46	7439-98-7	
Selenium	**0.25J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 15:46	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 15:46	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:17	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1080**	mg/L	5.0	5.0	1		05/14/18 11:36		
9040 pH	Analytical Method: EPA 9040								
pH	**7.9**	Std. Units	0.10	0.10	1		05/11/18 11:02		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**14.1**	mg/L	1.0	0.46	1		05/19/18 18:57	16887-00-6	
Fluoride	**0.11J**	mg/L	0.20	0.063	1		05/19/18 18:57	16984-48-8	
Sulfate	**553**	mg/L	50.0	11.8	50		05/20/18 14:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Sample: MW-303 **Lab ID: 60270064003** Collected: 05/09/18 08:45 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/09/18 08:45		
Field pH	**7.51**	Std. Units	0.10	0.050	1		05/09/18 08:45		
Field Temperature	**13.8**	deg C	0.50	0.25	1		05/09/18 08:45		
Field Specific Conductance	**535.7**	umhos/cm	1.0	1.0	1		05/09/18 08:45		
Field Oxidation Potential	**-165.5**	mV			1		05/09/18 08:45		
Oxygen, Dissolved	**0.11**	mg/L			1		05/09/18 08:45	7782-44-7	
Turbidity	**0.97**	NTU	1.0	1.0	1		05/09/18 08:45		
Groundwater Elevation	**525.80**	feet			1		05/09/18 08:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**22900**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 19:40	7440-42-8	
Calcium	**87.0**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 19:40	7440-70-2	
Lithium	**50.7**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 19:40	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.026**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 15:50	7440-36-0	
Arsenic	**7.9**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 15:50	7440-38-2	
Barium	**412**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 15:50	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 15:50	7440-41-7	
Cadmium	**0.028J**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 15:50	7440-43-9	
Chromium	**0.27J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 15:50	7440-47-3	B
Cobalt	**0.31J**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 15:50	7440-48-4	
Lead	**0.21J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 15:50	7439-92-1	
Molybdenum	**75.4**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 15:50	7439-98-7	
Selenium	**0.19J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 15:50	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 15:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:19	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**502**	mg/L	5.0	5.0	1		05/14/18 11:36		
9040 pH	Analytical Method: EPA 9040								
pH	**7.4**	Std. Units	0.10	0.10	1		05/11/18 11:03		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.1**	mg/L	1.0	0.46	1		05/19/18 19:41	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.063	1		05/19/18 19:41	16984-48-8	
Sulfate	**128**	mg/L	10.0	2.4	10		05/20/18 15:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Sample: MW-304 **Lab ID: 60270064004** Collected: 05/09/18 08:10 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/09/18 08:10		
Field pH	**8.51**	Std. Units	0.10	0.050	1		05/09/18 08:10		
Field Temperature	**13.5**	deg C	0.50	0.25	1		05/09/18 08:10		
Field Specific Conductance	**906**	umhos/cm	1.0	1.0	1		05/09/18 08:10		
Field Oxidation Potential	**-273**	mV			1		05/09/18 08:10		
Oxygen, Dissolved	**1.4**	mg/L			1		05/09/18 08:10	7782-44-7	
Turbidity	**2.84**	NTU	1.0	1.0	1		05/09/18 08:10		
Groundwater Elevation	**525.85**	feet			1		05/09/18 08:10		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5140**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 19:42	7440-42-8	
Calcium	**107**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 19:42	7440-70-2	
Lithium	**63.8**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 19:42	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.75J**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 15:55	7440-36-0	
Arsenic	**57.2**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 15:55	7440-38-2	
Barium	**115**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 15:55	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 15:55	7440-41-7	
Cadmium	**<0.018**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 15:55	7440-43-9	
Chromium	**0.22J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 15:55	7440-47-3	B
Cobalt	**0.098J**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 15:55	7440-48-4	
Lead	**<0.033**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 15:55	7439-92-1	
Molybdenum	**126**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 15:55	7439-98-7	
Selenium	**0.24J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 15:55	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 15:55	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:21	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**657**	mg/L	5.0	5.0	1		05/14/18 11:36		
9040 pH	Analytical Method: EPA 9040								
pH	**8.3**	Std. Units	0.10	0.10	1		05/11/18 11:05		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**58.1**	mg/L	5.0	2.3	5		05/20/18 16:06	16887-00-6	
Fluoride	**0.11J**	mg/L	0.20	0.063	1		05/19/18 19:56	16984-48-8	
Sulfate	**273**	mg/L	20.0	4.7	20		05/20/18 16:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Sample: MW-305 **Lab ID: 60270064005** Collected: 05/09/18 11:55 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/09/18 11:55		
Field pH	**7.72**	Std. Units	0.10	0.050	1		05/09/18 11:55		
Field Temperature	**15.2**	deg C	0.50	0.25	1		05/09/18 11:55		
Field Specific Conductance	**733**	umhos/cm	1.0	1.0	1		05/09/18 11:55		
Field Oxidation Potential	**-146.8**	mV			1		05/09/18 11:55		
Oxygen, Dissolved	**1.40**	mg/L			1		05/09/18 11:55	7782-44-7	
Turbidity	**0.64**	NTU	1.0	1.0	1		05/09/18 11:55		
Groundwater Elevation	**526.06**	feet			1		05/09/18 11:55		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2000**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 19:44	7440-42-8	
Calcium	**82.5**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 19:44	7440-70-2	
Lithium	**27.8**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 19:44	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.026**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 15:59	7440-36-0	
Arsenic	**0.28J**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 15:59	7440-38-2	
Barium	**173**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 15:59	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 15:59	7440-41-7	
Cadmium	**<0.018**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 15:59	7440-43-9	
Chromium	**0.25J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 15:59	7440-47-3	B
Cobalt	**0.14J**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 15:59	7440-48-4	
Lead	**0.034J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 15:59	7439-92-1	
Molybdenum	**0.87J**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 15:59	7439-98-7	
Selenium	**0.24J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 15:59	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 15:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:23	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**441**	mg/L	5.0	5.0	1		05/14/18 11:36		
9040 pH	Analytical Method: EPA 9040								
pH	**7.5**	Std. Units	0.10	0.10	1		05/11/18 11:06		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**34.8**	mg/L	2.0	0.92	2		05/20/18 16:35	16887-00-6	
Fluoride	**0.48**	mg/L	0.20	0.063	1		05/19/18 20:11	16984-48-8	
Sulfate	**11.7**	mg/L	1.0	0.24	1		05/19/18 20:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Sample: MW-306 **Lab ID: 60270064006** Collected: 05/09/18 11:10 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/09/18 11:10		
Field pH	**6.80**	Std. Units	0.10	0.050	1		05/09/18 11:10		
Field Temperature	**14.7**	deg C	0.50	0.25	1		05/09/18 11:10		
Field Specific Conductance	**354.2**	umhos/cm	1.0	1.0	1		05/09/18 11:10		
Field Oxidation Potential	**-104.3**	mV			1		05/09/18 11:10		
Oxygen, Dissolved	**0.05**	mg/L			1		05/09/18 11:10	7782-44-7	
Turbidity	**0.71**	NTU	1.0	1.0	1		05/09/18 11:10		
Groundwater Elevation	**526**	feet			1		05/09/18 11:10		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3480**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 19:46	7440-42-8	
Calcium	**32.0**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 19:46	7440-70-2	
Lithium	**36.6**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 19:46	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.2**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 16:04	7440-36-0	
Arsenic	**52.6**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 16:04	7440-38-2	
Barium	**13.6**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 16:04	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 16:04	7440-41-7	
Cadmium	**0.029J**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 16:04	7440-43-9	
Chromium	**0.24J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 16:04	7440-47-3	B
Cobalt	**0.035J**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 16:04	7440-48-4	
Lead	**0.26J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 16:04	7439-92-1	
Molybdenum	**84.7**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 16:04	7439-98-7	
Selenium	**0.66J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 16:04	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 16:04	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:26	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**396**	mg/L	5.0	5.0	1		05/14/18 11:36		
9040 pH	Analytical Method: EPA 9040								
pH	**6.5**	Std. Units	0.10	0.10	1		05/11/18 11:08		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.3**	mg/L	2.0	0.92	2		05/20/18 16:50	16887-00-6	
Fluoride	**0.12J**	mg/L	0.20	0.063	1		05/19/18 20:26	16984-48-8	
Sulfate	**107**	mg/L	10.0	2.4	10		05/20/18 17:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Sample: MW-307 **Lab ID: 60270064007** Collected: 05/09/18 10:45 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/09/18 10:45		
Field pH	**10.3**	Std. Units	0.10	0.050	1		05/09/18 10:45		
Field Temperature	**14.4**	deg C	0.50	0.25	1		05/09/18 10:45		
Field Specific Conductance	**499.9**	umhos/cm	1.0	1.0	1		05/09/18 10:45		
Field Oxidation Potential	**-168.6**	mV			1		05/09/18 10:45		
Oxygen, Dissolved	**1.10**	mg/L			1		05/09/18 10:45	7782-44-7	
Turbidity	**1.87**	NTU	1.0	1.0	1		05/09/18 10:45		
Groundwater Elevation	**526.06**	feet			1		05/09/18 10:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3910**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 19:49	7440-42-8	
Calcium	**27.3**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 19:49	7440-70-2	
Lithium	**47.8**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 19:49	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.50J**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 16:08	7440-36-0	
Arsenic	**54.3**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 16:08	7440-38-2	
Barium	**32.3**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 16:08	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 16:08	7440-41-7	
Cadmium	**0.12J**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 16:08	7440-43-9	
Chromium	**0.27J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 16:08	7440-47-3	B
Cobalt	**0.033J**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 16:08	7440-48-4	
Lead	**0.39J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 16:08	7439-92-1	
Molybdenum	**154**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 16:08	7439-98-7	
Selenium	**0.36J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 16:08	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 16:08	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:28	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**347**	mg/L	5.0	5.0	1		05/14/18 11:36		
9040 pH	Analytical Method: EPA 9040								
pH	**9.9**	Std. Units	0.10	0.10	1		05/11/18 11:09		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.1**	mg/L	2.0	0.92	2		05/20/18 17:20	16887-00-6	
Fluoride	**0.11J**	mg/L	0.20	0.063	1		05/19/18 20:41	16984-48-8	
Sulfate	**119**	mg/L	10.0	2.4	10		05/20/18 17:35	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/25216066.18
Pace Project No.: 60270064

Sample: MW-308 **Lab ID: 60270064008** Collected: 05/08/18 19:25 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/08/18 19:25		
Field pH	**9.75**	Std. Units	0.10	0.050	1		05/08/18 19:25		
Field Temperature	**14.4**	deg C	0.50	0.25	1		05/08/18 19:25		
Field Specific Conductance	**698**	umhos/cm	1.0	1.0	1		05/08/18 19:25		
Field Oxidation Potential	**-158.2**	mV			1		05/08/18 19:25		
Oxygen, Dissolved	**1.50**	mg/L			1		05/08/18 19:25	7782-44-7	
Turbidity	**1.26**	NTU	1.0	1.0	1		05/08/18 19:25		
Groundwater Elevation	**525.62**	feet			1		05/08/18 19:25		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5030**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 19:51	7440-42-8	
Calcium	**28.7**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 19:51	7440-70-2	
Lithium	**46.0**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 19:51	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.32J**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 16:12	7440-36-0	
Arsenic	**79.1**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 16:12	7440-38-2	
Barium	**64.3**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 16:12	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 16:12	7440-41-7	
Cadmium	**0.020J**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 16:12	7440-43-9	
Chromium	**0.25J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 16:12	7440-47-3	B
Cobalt	**0.057J**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 16:12	7440-48-4	
Lead	**0.25J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 16:12	7439-92-1	
Molybdenum	**140**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 16:12	7439-98-7	
Selenium	**0.31J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 16:12	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 16:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:30	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**494**	mg/L	5.0	5.0	1		05/13/18 18:32		
9040 pH	Analytical Method: EPA 9040								
pH	**9.4**	Std. Units	0.10	0.10	1		05/22/18 10:22		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**36.2**	mg/L	5.0	2.3	5		05/20/18 17:50	16887-00-6	
Fluoride	**0.17J**	mg/L	0.20	0.063	1		05/19/18 20:56	16984-48-8	
Sulfate	**164**	mg/L	20.0	4.7	20		05/20/18 18:35	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/25216066.18
Pace Project No.: 60270064

Sample: MW-309 **Lab ID: 60270064009** Collected: 05/08/18 19:05 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/08/18 19:05		
Field pH	**7.25**	Std. Units	0.10	0.050	1		05/08/18 19:05		
Field Temperature	**13.5**	deg C	0.50	0.25	1		05/08/18 19:05		
Field Specific Conductance	**813**	umhos/cm	1.0	1.0	1		05/08/18 19:05		
Field Oxidation Potential	**-139.2**	mV			1		05/08/18 19:05		
Oxygen, Dissolved	**0.05**	mg/L			1		05/08/18 19:05	7782-44-7	
Turbidity	**6.49**	NTU	1.0	1.0	1		05/08/18 19:05		
Groundwater Elevation	**525.54**	feet			1		05/08/18 19:05		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4720**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 19:58	7440-42-8	
Calcium	**83.6**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 19:58	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 19:58	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.026**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 16:30	7440-36-0	
Arsenic	**28.2**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 16:30	7440-38-2	
Barium	**154**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 16:30	7440-39-3	
Beryllium	**0.012J**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 16:30	7440-41-7	
Cadmium	**0.021J**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 16:30	7440-43-9	
Chromium	**0.32J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 16:30	7440-47-3	B
Cobalt	**4.9**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 16:30	7440-48-4	
Lead	**0.045J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 16:30	7439-92-1	
Molybdenum	**43.4**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 16:30	7439-98-7	
Selenium	**0.30J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 16:30	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 16:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:32	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**688**	mg/L	5.0	5.0	1		05/13/18 18:32		
9040 pH	Analytical Method: EPA 9040								
pH	**7.4**	Std. Units	0.10	0.10	1		05/22/18 10:20		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**112**	mg/L	10.0	4.6	10		05/20/18 18:50	16887-00-6	
Fluoride	**0.40**	mg/L	0.20	0.063	1		05/19/18 21:11	16984-48-8	
Sulfate	**107**	mg/L	10.0	2.4	10		05/20/18 18:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Sample: MW-310 **Lab ID: 60270064010** Collected: 05/08/18 17:30 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/08/18 17:30		
Field pH	**7.46**	Std. Units	0.10	0.050	1		05/08/18 17:30		
Field Temperature	**11.1**	deg C	0.50	0.25	1		05/08/18 17:30		
Field Specific Conductance	**594.6**	umhos/cm	1.0	1.0	1		05/08/18 17:30		
Field Oxidation Potential	**-198.8**	mV			1		05/08/18 17:30		
Oxygen, Dissolved	**0.14**	mg/L			1		05/08/18 17:30	7782-44-7	
Turbidity	**12.81**	NTU	1.0	1.0	1		05/08/18 17:30		
Groundwater Elevation	**525.79**	feet			1		05/08/18 17:30		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**217**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 20:00	7440-42-8	
Calcium	**104**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 20:00	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 20:00	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.026**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 16:34	7440-36-0	
Arsenic	**57.8**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 16:34	7440-38-2	
Barium	**403**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 16:34	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 16:34	7440-41-7	
Cadmium	**<0.018**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 16:34	7440-43-9	
Chromium	**0.16J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 16:34	7440-47-3	B
Cobalt	**1.2**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 16:34	7440-48-4	
Lead	**0.044J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 16:34	7439-92-1	
Molybdenum	**4.2**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 16:34	7439-98-7	
Selenium	**0.14J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 16:34	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 16:34	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:39	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**462**	mg/L	5.0	5.0	1		05/13/18 18:32		
9040 pH	Analytical Method: EPA 9040								
pH	**7.4**	Std. Units	0.10	0.10	1		05/22/18 10:18		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**24.4**	mg/L	2.0	0.92	2		05/20/18 19:04	16887-00-6	
Fluoride	**0.33**	mg/L	0.20	0.063	1		05/19/18 21:26	16984-48-8	
Sulfate	**28.8**	mg/L	2.0	0.47	2		05/20/18 19:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Sample: MW-311 **Lab ID: 60270064011** Collected: 05/08/18 18:20 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**CLIENT**				1		05/08/18 18:20		
Field pH	**7.26**	Std. Units	0.10	0.050	1		05/08/18 18:20		
Field Temperature	**11.5**	deg C	0.50	0.25	1		05/08/18 18:20		
Field Specific Conductance	**1282**	umhos/cm	1.0	1.0	1		05/08/18 18:20		
Field Oxidation Potential	**-143.3**	mV			1		05/08/18 18:20		
Oxygen, Dissolved	**1.60**	mg/L			1		05/08/18 18:20	7782-44-7	
Turbidity	**1.48**	NTU	1.0	1.0	1		05/08/18 18:20		
Groundwater Elevation	**525.08**	feet			1		05/08/18 18:20		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2200**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 20:02	7440-42-8	
Calcium	**173**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 20:02	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 20:02	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.026**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 16:39	7440-36-0	
Arsenic	**14.0**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 16:39	7440-38-2	
Barium	**256**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 16:39	7440-39-3	
Beryllium	**<0.023**	ug/L	1.0	0.023	2	05/23/18 09:25	05/24/18 17:10	7440-41-7	D3
Cadmium	**<0.018**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 16:39	7440-43-9	
Chromium	**0.20J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 16:39	7440-47-3	B
Cobalt	**0.30J**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 16:39	7440-48-4	
Lead	**0.043J**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 16:39	7439-92-1	
Molybdenum	**11.6**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 16:39	7439-98-7	
Selenium	**0.17J**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 16:39	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 16:39	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:41	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**864**	mg/L	5.0	5.0	1		05/13/18 18:32		
9040 pH	Analytical Method: EPA 9040								
pH	**7.4**	Std. Units	0.10	0.10	1		05/22/18 10:19		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**79.9**	mg/L	10.0	4.6	10		05/20/18 19:19	16887-00-6	
Fluoride	**0.31**	mg/L	0.20	0.063	1		05/19/18 21:41	16984-48-8	
Sulfate	**176**	mg/L	10.0	2.4	10		05/20/18 19:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
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(913)599-5665

ANALYTICAL RESULTS

Project: Burlington/25216066.18
Pace Project No.: 60270064

Sample: FIELD BLANK **Lab ID: 60270064012** Collected: 05/09/18 11:20 Received: 05/10/18 08:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**13.2J**	ug/L	100	12.5	1	05/14/18 08:40	05/14/18 20:04	7440-42-8	
Calcium	**<0.054**	mg/L	0.20	0.054	1	05/14/18 08:40	05/14/18 20:04	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	05/14/18 08:40	05/14/18 20:04	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.026**	ug/L	1.0	0.026	1	05/23/18 09:25	05/24/18 16:26	7440-36-0	
Arsenic	**<0.052**	ug/L	1.0	0.052	1	05/23/18 09:25	05/24/18 16:26	7440-38-2	
Barium	**<0.095**	ug/L	1.0	0.095	1	05/23/18 09:25	05/24/18 16:26	7440-39-3	
Beryllium	**<0.012**	ug/L	0.50	0.012	1	05/23/18 09:25	05/24/18 16:26	7440-41-7	
Cadmium	**<0.018**	ug/L	0.50	0.018	1	05/23/18 09:25	05/24/18 16:26	7440-43-9	
Chromium	**0.21J**	ug/L	1.0	0.054	1	05/23/18 09:25	05/24/18 16:26	7440-47-3	B
Cobalt	**<0.014**	ug/L	1.0	0.014	1	05/23/18 09:25	05/24/18 16:26	7440-48-4	
Lead	**<0.033**	ug/L	1.0	0.033	1	05/23/18 09:25	05/24/18 16:26	7439-92-1	
Molybdenum	**<0.058**	ug/L	1.0	0.058	1	05/23/18 09:25	05/24/18 16:26	7439-98-7	
Selenium	**<0.086**	ug/L	1.0	0.086	1	05/23/18 09:25	05/24/18 16:26	7782-49-2	
Thallium	**<0.036**	ug/L	1.0	0.036	1	05/23/18 09:25	05/24/18 16:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	05/16/18 15:30	05/17/18 11:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		05/14/18 11:36		
9040 pH	Analytical Method: EPA 9040								
pH	**6.1**	Std. Units	0.10	0.10	1		05/22/18 10:24		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**<0.46**	mg/L	1.0	0.46	1		05/19/18 21:56	16887-00-6	
Fluoride	**<0.063**	mg/L	0.20	0.063	1		05/19/18 21:56	16984-48-8	
Sulfate	**<0.24**	mg/L	1.0	0.24	1		05/19/18 21:56	14808-79-8	CH

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

QC Batch: 526104 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011, 60270064012

METHOD BLANK: 2154261 Matrix: Water
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011, 60270064012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.090	0.20	0.090	05/17/18 10:46	

LABORATORY CONTROL SAMPLE: 2154262

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2154263 2154264

Parameter	Units	60269953001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.090	5	5	4.7	4.8	94	95	75-125	1	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

QC Batch: 525607 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011, 60270064012

METHOD BLANK: 2152624 Matrix: Water
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011, 60270064012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<12.5	100	12.5	05/14/18 19:24	
Calcium	mg/L	<0.054	0.20	0.054	05/14/18 19:24	
Lithium	ug/L	<4.6	10.0	4.6	05/14/18 19:24	

LABORATORY CONTROL SAMPLE: 2152625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	988	99	80-120	
Calcium	mg/L	10	10.1	101	80-120	
Lithium	ug/L	1000	1070	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2152626 2152627

Parameter	Units	60270064001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	9140	1000	1000	10100	10400	99	124	75-125	2	20	
Calcium	mg/L	85.3	10	10	94.7	96.6	94	113	75-125	2	20	
Lithium	ug/L	17.8	1000	1000	1100	1110	108	109	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

QC Batch: 526941 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011, 60270064012

METHOD BLANK: 2158346 Matrix: Water
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011, 60270064012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.026	1.0	0.026	05/24/18 14:40	
Arsenic	ug/L	<0.052	1.0	0.052	05/24/18 14:40	
Barium	ug/L	0.20J	1.0	0.095	05/24/18 14:40	
Beryllium	ug/L	<0.012	0.50	0.012	05/24/18 14:40	
Cadmium	ug/L	<0.018	0.50	0.018	05/24/18 14:40	
Chromium	ug/L	0.14J	1.0	0.054	05/24/18 14:40	
Cobalt	ug/L	<0.014	1.0	0.014	05/24/18 14:40	
Lead	ug/L	<0.033	1.0	0.033	05/24/18 14:40	
Molybdenum	ug/L	<0.058	1.0	0.058	05/24/18 14:40	
Selenium	ug/L	<0.086	1.0	0.086	05/24/18 14:40	
Thallium	ug/L	<0.036	1.0	0.036	05/24/18 14:40	

LABORATORY CONTROL SAMPLE: 2158347

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.4	99	80-120	
Arsenic	ug/L	40	39.3	98	80-120	
Barium	ug/L	40	39.0	98	80-120	
Beryllium	ug/L	40	40.2	101	80-120	
Cadmium	ug/L	40	40.3	101	80-120	
Chromium	ug/L	40	40.1	100	80-120	
Cobalt	ug/L	40	38.8	97	80-120	
Lead	ug/L	40	38.5	96	80-120	
Molybdenum	ug/L	40	39.5	99	80-120	
Selenium	ug/L	40	39.5	99	80-120	
Thallium	ug/L	40	36.9	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2158348 2158349

Parameter	Units	60269953002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.048J	40	40	39.2	39.6	98	99	75-125	1	20	
Arsenic	ug/L	0.79J	40	40	39.5	39.9	97	98	75-125	1	20	
Barium	ug/L	213	40	40	257	258	110	113	75-125	1	20	
Beryllium	ug/L	<0.012	40	40	39.4	39.0	98	98	75-125	1	20	
Cadmium	ug/L	0.041J	40	40	38.3	38.8	96	97	75-125	1	20	
Chromium	ug/L	1.2	40	40	40.2	40.2	98	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2158348 2158349

Parameter	Units	60269953002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	3.2	40	40	40.6	40.8	94	94	75-125	1	20	
Lead	ug/L	0.035J	40	40	40.4	40.5	101	101	75-125	0	20	
Molybdenum	ug/L	0.99J	40	40	42.3	41.7	103	102	75-125	2	20	
Selenium	ug/L	0.54J	40	40	37.0	37.4	91	92	75-125	1	20	
Thallium	ug/L	0.039J	40	40	39.1	39.3	98	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

QC Batch: 525585 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60270064008, 60270064009, 60270064010, 60270064011

METHOD BLANK: 2152573 Matrix: Water
Associated Lab Samples: 60270064008, 60270064009, 60270064010, 60270064011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/13/18 18:32	

LABORATORY CONTROL SAMPLE: 2152574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1060	106	80-120	

SAMPLE DUPLICATE: 2152575

Parameter	Units	60269961018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	504	509	1	10	

SAMPLE DUPLICATE: 2152576

Parameter	Units	60270101002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1250	1230	2	10	

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

QC Batch: 525588 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064012

METHOD BLANK: 2152581 Matrix: Water
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/14/18 11:36	

LABORATORY CONTROL SAMPLE: 2152582

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	996	100	80-120	

SAMPLE DUPLICATE: 2152583

Parameter	Units	60270057003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	982	974	1	10	

SAMPLE DUPLICATE: 2152584

Parameter	Units	60270100006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	808	791	2	10	

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

QC Batch: 525365 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007

SAMPLE DUPLICATE: 2151154

Parameter	Units	60269494001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	2.4	2.4	0	10	H6

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

QC Batch: 526277 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60270064008, 60270064009, 60270064010, 60270064011, 60270064012

SAMPLE DUPLICATE: 2155045

Parameter	Units	60269612001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	6.8	6.8	0	10	H6

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

QC Batch: 526459 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011, 60270064012

METHOD BLANK: 2156189 Matrix: Water
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011, 60270064012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.46	1.0	0.46	05/19/18 15:13	
Fluoride	mg/L	<0.063	0.20	0.063	05/19/18 15:13	
Sulfate	mg/L	<0.24	1.0	0.24	05/19/18 15:13	

LABORATORY CONTROL SAMPLE: 2156190

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	80-120	
Fluoride	mg/L	2.5	2.5	99	80-120	
Sulfate	mg/L	5	5.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2156191 2156192

Parameter	Units	60269953001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.20J	2.5	2.5	2.7	2.8	101	103	80-120	2	15	

SAMPLE DUPLICATE: 2156193

Parameter	Units	60269953002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.23	0.23	1	15	

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QUALITY CONTROL DATA

Project: Burlington/25216066.18
Pace Project No.: 60270064

QC Batch: 526490 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011

METHOD BLANK: 2156666 Matrix: Water
Associated Lab Samples: 60270064001, 60270064002, 60270064003, 60270064004, 60270064005, 60270064006, 60270064007, 60270064008, 60270064009, 60270064010, 60270064011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.46	1.0	0.46	05/20/18 09:00	
Sulfate	mg/L	<0.24	1.0	0.24	05/20/18 09:00	

LABORATORY CONTROL SAMPLE: 2156667

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2156668 2156669

Parameter	Units	60270064002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	553	250	250	804	803	101	100	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Burlington/25216066.18
Pace Project No.: 60270064

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.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.18
Pace Project No.: 60270064

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60270064001	**MW-301**		526088		
60270064002	**MW-302**		526088		
60270064003	**MW-303**		526088		
60270064004	**MW-304**		526088		
60270064005	**MW-305**		526088		
60270064006	**MW-306**		526088		
60270064007	**MW-307**		526088		
60270064008	**MW-308**		526088		
60270064009	**MW-309**		526088		
60270064010	**MW-310**		526088		
60270064011	**MW-311**		526088		
60270064001	**MW-301**	EPA 3010	525607	EPA 6010	525691
60270064002	**MW-302**	EPA 3010	525607	EPA 6010	525691
60270064003	**MW-303**	EPA 3010	525607	EPA 6010	525691
60270064004	**MW-304**	EPA 3010	525607	EPA 6010	525691
60270064005	**MW-305**	EPA 3010	525607	EPA 6010	525691
60270064006	**MW-306**	EPA 3010	525607	EPA 6010	525691
60270064007	**MW-307**	EPA 3010	525607	EPA 6010	525691
60270064008	**MW-308**	EPA 3010	525607	EPA 6010	525691
60270064009	**MW-309**	EPA 3010	525607	EPA 6010	525691
60270064010	**MW-310**	EPA 3010	525607	EPA 6010	525691
60270064011	**MW-311**	EPA 3010	525607	EPA 6010	525691
60270064012	**FIELD BLANK**	EPA 3010	525607	EPA 6010	525691
60270064001	**MW-301**	EPA 3010	526941	EPA 6020	526987
60270064002	**MW-302**	EPA 3010	526941	EPA 6020	526987
60270064003	**MW-303**	EPA 3010	526941	EPA 6020	526987
60270064004	**MW-304**	EPA 3010	526941	EPA 6020	526987
60270064005	**MW-305**	EPA 3010	526941	EPA 6020	526987
60270064006	**MW-306**	EPA 3010	526941	EPA 6020	526987
60270064007	**MW-307**	EPA 3010	526941	EPA 6020	526987
60270064008	**MW-308**	EPA 3010	526941	EPA 6020	526987
60270064009	**MW-309**	EPA 3010	526941	EPA 6020	526987
60270064010	**MW-310**	EPA 3010	526941	EPA 6020	526987
60270064011	**MW-311**	EPA 3010	526941	EPA 6020	526987
60270064012	**FIELD BLANK**	EPA 3010	526941	EPA 6020	526987
60270064001	**MW-301**	EPA 7470	526104	EPA 7470	526112
60270064002	**MW-302**	EPA 7470	526104	EPA 7470	526112
60270064003	**MW-303**	EPA 7470	526104	EPA 7470	526112
60270064004	**MW-304**	EPA 7470	526104	EPA 7470	526112
60270064005	**MW-305**	EPA 7470	526104	EPA 7470	526112
60270064006	**MW-306**	EPA 7470	526104	EPA 7470	526112
60270064007	**MW-307**	EPA 7470	526104	EPA 7470	526112
60270064008	**MW-308**	EPA 7470	526104	EPA 7470	526112
60270064009	**MW-309**	EPA 7470	526104	EPA 7470	526112
60270064010	**MW-310**	EPA 7470	526104	EPA 7470	526112
60270064011	**MW-311**	EPA 7470	526104	EPA 7470	526112
60270064012	**FIELD BLANK**	EPA 7470	526104	EPA 7470	526112

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.18
Pace Project No.: 60270064

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60270064001	MW-301	SM 2540C	525588		
60270064002	MW-302	SM 2540C	525588		
60270064003	MW-303	SM 2540C	525588		
60270064004	MW-304	SM 2540C	525588		
60270064005	MW-305	SM 2540C	525588		
60270064006	MW-306	SM 2540C	525588		
60270064007	MW-307	SM 2540C	525588		
60270064008	MW-308	SM 2540C	525585		
60270064009	MW-309	SM 2540C	525585		
60270064010	MW-310	SM 2540C	525585		
60270064011	MW-311	SM 2540C	525585		
60270064012	FIELD BLANK	SM 2540C	525588		
60270064001	MW-301	EPA 9040	525365		
60270064002	MW-302	EPA 9040	525365		
60270064003	MW-303	EPA 9040	525365		
60270064004	MW-304	EPA 9040	525365		
60270064005	MW-305	EPA 9040	525365		
60270064006	MW-306	EPA 9040	525365		
60270064007	MW-307	EPA 9040	525365		
60270064008	MW-308	EPA 9040	526277		
60270064009	MW-309	EPA 9040	526277		
60270064010	MW-310	EPA 9040	526277		
60270064011	MW-311	EPA 9040	526277		
60270064012	FIELD BLANK	EPA 9040	526277		
60270064001	MW-301	EPA 9056	526459		
60270064001	MW-301	EPA 9056	526490		
60270064002	MW-302	EPA 9056	526459		
60270064002	MW-302	EPA 9056	526490		
60270064003	MW-303	EPA 9056	526459		
60270064003	MW-303	EPA 9056	526490		
60270064004	MW-304	EPA 9056	526459		
60270064004	MW-304	EPA 9056	526490		
60270064005	MW-305	EPA 9056	526459		
60270064005	MW-305	EPA 9056	526490		
60270064006	MW-306	EPA 9056	526459		
60270064006	MW-306	EPA 9056	526490		
60270064007	MW-307	EPA 9056	526459		
60270064007	MW-307	EPA 9056	526490		
60270064008	MW-308	EPA 9056	526459		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.18
Pace Project No.: 60270064

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60270064008	**MW-308**	EPA 9056	526490		
60270064009	**MW-309**	EPA 9056	526459		
60270064009	**MW-309**	EPA 9056	526490		
60270064010	**MW-310**	EPA 9056	526459		
60270064010	**MW-310**	EPA 9056	526490		
60270064011	**MW-311**	EPA 9056	526459		
60270064011	**MW-311**	EPA 9056	526490		
60270064012	**FIELD BLANK**	EPA 9056	526459		

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Sample Condition Upon Receipt

WO# : 60270064

60270064

Client Name: SCS Eng.

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

Tracking #: 4122 4945 7023/7012 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: 296 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 0.4 0.8 **Corr. Factor** +1.3 **Corrected** 1.7 2.1

Date and initials of person examining contents: MS 5/10/18

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	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☑No ☐N/A	
Headspace in VOA vials (>6mm):	☐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: 5-10-18

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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:	25216066.18

Section C — Invoice Information:

Attention:	Meghan Blodgett/Jess Valcheff
Company Name:	SCS Engineers
Address:	
Pace Quote Reference:	
Pace Project Manager:	Trudy Gipson 913-563-1405
Pace Profile #:	6696 Line 2

REGULATORY AGENCY

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

Site Location STATE: IA

Section D — **Required** Client Information

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

Valid Matrix Codes

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

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					60270064
1	MW-301	WT	G	xxx	xxx	5/9/18	1000		3	1		2						X	X	X	X	X	X		BBW 2(BB3N) 01
2	MW-302	WT	G	xxx	xxx		0925		3	1		2						X	X	X	X	X	X		02
3	MW-303	WT	G	xxx	xxx		0845		3	1		2						X	X	X	X	X	X		03
4	MW-304	WT	G	xxx	xxx		0810		3	1		2						X	X	X	X	X	X		04
5	MW-305	WT	G	xxx	xxx		1155		3	1		2						X	X	X	X	X	X		05
6	MW-306	WT	G	xxx	xxx		1110		3	1		2						X	X	X	X	X	X		06
7	MW-307	WT	G	xxx	xxx		1045		3	1		2						X	X	X	X	X	X		07
8	MW-308	WT	G	xxx	xxx	5/8/18	1925		3	1		2						X	X	X	X	X	X		08
9	MW-309	WT	G	xxx	xxx		1905		3	1		2						X	X	X	X	X	X		09
10	MW-310	WT	G	xxx	xxx		1730		3	1		2						X	X	X	X	X	X		10
11	MW-311	WT	G	xxx	xxx		1820		3	1		2						X	X	X	X	X	X		11
12	FIELD BLANK	WT	G	xxx	xxx	5-9-18	1120		3	1		2						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		5/9/18	1220		5/10/18	0825	2.1	Y	Y	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl							1.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Krueger

SIGNATURE of SAMPLER: _____ DATE Signed (MM/DD/YY): 5/9/18

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.
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June 04, 2018

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: Burlington/25216066.18
Pace Project No.: 60270075

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2018. 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
Nicole Kron, SCS Engineers
Jeff Maxted, Alliant Energy
Jess Valcheff, SCS Engeineers

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CERTIFICATIONS

Project: Burlington/25216066.18
Pace Project No.: 60270075

Pennsylvania Certification IDs

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

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SAMPLE SUMMARY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60270075001	**MW-301**	Water	05/09/18 10:00	05/10/18 08:25
60270075002	**MW-302**	Water	05/09/18 09:25	05/10/18 08:25
60270075003	**MW-303**	Water	05/09/18 08:45	05/10/18 08:25
60270075004	**MW-304**	Water	05/09/18 08:10	05/10/18 08:25
60270075005	**MW-305**	Water	05/09/18 11:55	05/10/18 08:25
60270075006	**MW-306**	Water	05/09/18 11:10	05/10/18 08:25
60270075007	**MW-307**	Water	05/09/18 10:45	05/10/18 08:25
60270075008	**MW-308**	Water	05/08/18 19:25	05/10/18 08:25
60270075009	**MW-309**	Water	05/08/18 19:05	05/10/18 08:25
60270075010	**MW-310**	Water	05/08/18 17:30	05/10/18 08:25
60270075011	**MW-311**	Water	05/08/18 18:20	05/10/18 08:25
60270075012	**FIELD BLANK**	Water	05/09/18 11:20	05/10/18 08:25

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SAMPLE ANALYTE COUNT

Project: Burlington/25216066.18
Pace Project No.: 60270075

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60270075001	**MW-301**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075002	**MW-302**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075003	**MW-303**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075004	**MW-304**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075005	**MW-305**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075006	**MW-306**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075007	**MW-307**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075008	**MW-308**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075009	**MW-309**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075010	**MW-310**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075011	**MW-311**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60270075012	**FIELD BLANK**	EPA 903.1	KAC	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/25216066.18
Pace Project No.: 60270075

Sample: MW-301 **Lab ID: 60270075001** Collected: 05/09/18 10:00 Received: 05/10/18 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	**0.712 ± 0.521 (0.718) C:NA T:95%**	pCi/L	05/31/18 10:48	13982-63-3	
Radium-228	EPA 904.0	**-0.0163 ± 0.324 (0.752) C:83% T:86%**	pCi/L	05/30/18 12:19	15262-20-1	
Total Radium	Total Radium Calculation	**0.712 ± 0.845 (1.47)**	pCi/L	06/01/18 11:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: MW-302 **Lab ID: 60270075002** Collected: 05/09/18 09:25 Received: 05/10/18 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	**0.621 ± 0.461 (0.576) C:NA T:84%**	pCi/L	05/31/18 10:48	13982-63-3	
Radium-228	EPA 904.0	**0.886 ± 0.413 (0.711) C:83% T:85%**	pCi/L	05/30/18 12:19	15262-20-1	
Total Radium	Total Radium Calculation	**1.51 ± 0.874 (1.29)**	pCi/L	06/01/18 11:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: MW-303 **Lab ID: 60270075003** Collected: 05/09/18 08:45 Received: 05/10/18 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	**0.677 ± 0.536 (0.728) C:NA T:86%**	pCi/L	05/31/18 10:48	13982-63-3	
Radium-228	EPA 904.0	**0.965 ± 0.423 (0.702) C:83% T:82%**	pCi/L	05/30/18 12:19	15262-20-1	
Total Radium	Total Radium Calculation	**1.64 ± 0.959 (1.43)**	pCi/L	06/01/18 11:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: MW-304 **Lab ID: 60270075004** Collected: 05/09/18 08:10 Received: 05/10/18 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	**0.405 ± 0.421 (0.627) C:NA T:82%**	pCi/L	05/31/18 10:48	13982-63-3	
Radium-228	EPA 904.0	**0.184 ± 0.329 (0.720) C:80% T:86%**	pCi/L	05/30/18 12:19	15262-20-1	
Total Radium	Total Radium Calculation	**0.589 ± 0.750 (1.35)**	pCi/L	06/01/18 11:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: MW-305 **Lab ID: 60270075005** Collected: 05/09/18 11:55 Received: 05/10/18 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	**0.992 ± 0.512 (0.429) C:NA T:89%**	pCi/L	05/31/18 10:48	13982-63-3	
Radium-228	EPA 904.0	**1.12 ± 0.482 (0.806) C:80% T:84%**	pCi/L	05/30/18 12:19	15262-20-1	
Total Radium	Total Radium Calculation	**2.11 ± 0.994 (1.24)**	pCi/L	06/01/18 11:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: MW-306 **Lab ID: 60270075006** Collected: 05/09/18 11:10 Received: 05/10/18 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	**0.174 ± 0.410 (0.760) C:NA T:90%**	pCi/L	05/31/18 10:48	13982-63-3	
Radium-228	EPA 904.0	**0.308 ± 0.359 (0.756) C:78% T:80%**	pCi/L	05/30/18 12:19	15262-20-1	
Total Radium	Total Radium Calculation	**0.482 ± 0.769 (1.52)**	pCi/L	06/01/18 11:11	7440-14-4	

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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: MW-307 **Lab ID: 60270075007** Collected: 05/09/18 10:45 Received: 05/10/18 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	**0.0587 ± 0.345 (0.704) C:NA T:83%**	pCi/L	05/31/18 10:48	13982-63-3	
Radium-228	EPA 904.0	**-0.0240 ± 0.303 (0.711) C:81% T:81%**	pCi/L	05/30/18 12:19	15262-20-1	
Total Radium	Total Radium Calculation	**0.0587 ± 0.648 (1.42)**	pCi/L	06/01/18 11:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: MW-308 **Lab ID: 60270075008** Collected: 05/08/18 19:25 Received: 05/10/18 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	**0.182 ± 0.396 (0.730) C:NA T:85%**	pCi/L	05/31/18 11:07	13982-63-3	
Radium-228	EPA 904.0	**0.101 ± 0.322 (0.726) C:82% T:80%**	pCi/L	05/30/18 12:20	15262-20-1	
Total Radium	Total Radium Calculation	**0.283 ± 0.718 (1.46)**	pCi/L	06/01/18 11:11	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/25216066.18
Pace Project No.: 60270075

Sample: MW-309 **Lab ID: 60270075009** Collected: 05/08/18 19:05 Received: 05/10/18 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	**-0.061 ± 0.279 (0.567) C:NA T:87%**	pCi/L	05/31/18 11:07	13982-63-3	
Radium-228	EPA 904.0	**0.218 ± 0.290 (0.617) C:82% T:81%**	pCi/L	05/30/18 12:20	15262-20-1	
Total Radium	Total Radium Calculation	**0.218 ± 0.569 (1.18)**	pCi/L	06/01/18 11:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: MW-310 **Lab ID: 60270075010** Collected: 05/08/18 17:30 Received: 05/10/18 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 ± 0.279 (0.568) C:NA T:86%**	pCi/L	05/31/18 11:07	13982-63-3	
Radium-228	EPA 904.0	**0.755 ± 0.349 (0.571) C:82% T:86%**	pCi/L	05/30/18 12:20	15262-20-1	
Total Radium	Total Radium Calculation	**0.755 ± 0.628 (1.14)**	pCi/L	06/01/18 11:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: MW-311 **Lab ID: 60270075011** Collected: 05/08/18 18:20 Received: 05/10/18 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	**0.183 ± 0.317 (0.567) C:NA T:83%**	pCi/L	05/31/18 11:07	13982-63-3	
Radium-228	EPA 904.0	**0.804 ± 0.388 (0.667) C:80% T:87%**	pCi/L	05/30/18 12:20	15262-20-1	
Total Radium	Total Radium Calculation	**0.987 ± 0.705 (1.23)**	pCi/L	06/01/18 11:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

Sample: FIELD BLANK **Lab ID: 60270075012** Collected: 05/09/18 11:20 Received: 05/10/18 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	**0.179 ± 0.273 (0.440) C:NA T:86%**	pCi/L	05/31/18 11:07	13982-63-3	
Radium-228	EPA 904.0	**0.136 ± 0.257 (0.566) C:82% T:78%**	pCi/L	05/30/18 12:23	15262-20-1	
Total Radium	Total Radium Calculation	**0.315 ± 0.530 (1.01)**	pCi/L	06/04/18 13:20	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

QC Batch: 298302 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60270075001, 60270075002, 60270075003, 60270075004, 60270075005, 60270075006, 60270075007, 60270075008, 60270075009, 60270075010, 60270075011, 60270075012

METHOD BLANK: 1460475 Matrix: Water
Associated Lab Samples: 60270075001, 60270075002, 60270075003, 60270075004, 60270075005, 60270075006, 60270075007, 60270075008, 60270075009, 60270075010, 60270075011, 60270075012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.430 ± 0.402 (0.570) C:NA T:83%	pCi/L	05/31/18 10:48	

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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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: Burlington/25216066.18
Pace Project No.: 60270075

QC Batch: 298322 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60270075001, 60270075002, 60270075003, 60270075004, 60270075005, 60270075006, 60270075007, 60270075008, 60270075009, 60270075010, 60270075011, 60270075012

METHOD BLANK: 1460508 Matrix: Water
Associated Lab Samples: 60270075001, 60270075002, 60270075003, 60270075004, 60270075005, 60270075006, 60270075007, 60270075008, 60270075009, 60270075010, 60270075011, 60270075012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.795 ± 0.419 (0.740) C:82% T:72%	pCi/L	05/30/18 12:20	

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

QUALIFIERS

Project: Burlington/25216066.18
Pace Project No.: 60270075

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Burlington/25216066.18
Pace Project No.: 60270075

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60270075001	**MW-301**	EPA 903.1	298302		
60270075002	**MW-302**	EPA 903.1	298302		
60270075003	**MW-303**	EPA 903.1	298302		
60270075004	**MW-304**	EPA 903.1	298302		
60270075005	**MW-305**	EPA 903.1	298302		
60270075006	**MW-306**	EPA 903.1	298302		
60270075007	**MW-307**	EPA 903.1	298302		
60270075008	**MW-308**	EPA 903.1	298302		
60270075009	**MW-309**	EPA 903.1	298302		
60270075010	**MW-310**	EPA 903.1	298302		
60270075011	**MW-311**	EPA 903.1	298302		
60270075012	**FIELD BLANK**	EPA 903.1	298302		
60270075001	**MW-301**	EPA 904.0	298322		
60270075002	**MW-302**	EPA 904.0	298322		
60270075003	**MW-303**	EPA 904.0	298322		
60270075004	**MW-304**	EPA 904.0	298322		
60270075005	**MW-305**	EPA 904.0	298322		
60270075006	**MW-306**	EPA 904.0	298322		
60270075007	**MW-307**	EPA 904.0	298322		
60270075008	**MW-308**	EPA 904.0	298322		
60270075009	**MW-309**	EPA 904.0	298322		
60270075010	**MW-310**	EPA 904.0	298322		
60270075011	**MW-311**	EPA 904.0	298322		
60270075012	**FIELD BLANK**	EPA 904.0	298322		
60270075001	**MW-301**	Total Radium Calculation	300614		
60270075002	**MW-302**	Total Radium Calculation	300614		
60270075003	**MW-303**	Total Radium Calculation	300614		
60270075004	**MW-304**	Total Radium Calculation	300614		
60270075005	**MW-305**	Total Radium Calculation	300614		
60270075006	**MW-306**	Total Radium Calculation	300614		
60270075007	**MW-307**	Total Radium Calculation	300614		
60270075008	**MW-308**	Total Radium Calculation	300614		
60270075009	**MW-309**	Total Radium Calculation	300614		
60270075010	**MW-310**	Total Radium Calculation	300614		
60270075011	**MW-311**	Total Radium Calculation	300614		
60270075012	**FIELD BLANK**	Total Radium Calculation	300615		

REPORT OF LABORATORY ANALYSIS

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60270075

60270075

Client Name: SCS

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

Tracking #: 4122 4445 7115, 7126 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: 301 **Type of Ice:** (Wet) Blue None TG

Cooler Temperature (°C): **As-read** 3.0 2.8 **Corr. Factor** +1.0 **Corrected** 4.0 3.8

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

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? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☐Yes ☐No ☒N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐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: 5-10-18

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

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:	25216066.18

Section C — Invoice Information:

Attention:	Meghan Blodgett/Jess Valcheff
Company Name:	SCS Engineers
Address:	
Pace Quote Reference:	
Pace Project Manager:	Trudy Gipson 913-563-1405
Pace Profile #:	6696 Line 2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location — **STATE:** IA

Section D — **Required** Client Information

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

Valid Matrix Codes

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

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.
				Requested Analysis Filtered (Y/N)																			
1	MW-301	WT	G	xxx	xxx	5/9/18	1000		2			2							X	X	X		(2) BPHN* 001
2	MW-302	WT	G	xxx	xxx		0925		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		0810		2			2							X	X	X		004
5	MW-305	WT	G	xxx	xxx		1155		2			2							X	X	X		005
6	MW-306	WT	G	xxx	xxx		1110		2			2							X	X	X		006
7	MW-307	WT	G	xxx	xxx	↓	1045		2			2							X	X	X		007
8	MW-308	WT	G	xxx	xxx	5/8/18	1925		2			2							X	X	X		008
9	MW-309	WT	G	xxx	xxx		1905		2			2							X	X	X		009
10	MW-310	WT	G	xxx	xxx		1730		2			2							X	X	X		010
11	MW-311	WT	G	xxx	xxx	↓	1820		2			2							X	X	X		011
12	FIELD BLANK	WT	G	xxx	xxx	5/9/18	1120		2			2							X	X	X		012

6027007S

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard. Lenexa, KS 66219	Kyle Kramer	5/9/18	1220		5/10	0820	4.0	Y	Y	Y
							2.9	Y	Y	Y

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Kyle Kramer					
SIGNATURE of SAMPLER:	Kyle Kramer	DATE Signed (MM/DD/YY): 5/9/18				

*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

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: IA

Pace Analytical® www.pacelabs.com

Workorder: 60270075 **Workorder Name:** Burlington/25216066.18

Owner Received Date: 5/10/2018 **Results Requested By:** 6/5/2018

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# : 30252585

30252585

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	Requested Analysis: 903.1 Radium-226	Requested Analysis: 904.0 Radium-228 & Total Radium	LAB USE ONLY
1	MW-301	PS	5/9/2018 10:00	60270075001	Water	2	X	X	001
2	MW-302	PS	5/9/2018 09:25	60270075002	Water	2	X	X	002
3	MW-303	PS	5/9/2018 08:45	60270075003	Water	2	X	X	003
4	MW-304	PS	5/9/2018 08:10	60270075004	Water	2	X	X	004
5	MW-305	PS	5/9/2018 11:55	60270075005	Water	2	X	X	005
6	MW-306	PS	5/9/2018 11:10	60270075006	Water	2	X	X	006
7	MW-307	PS	5/9/2018 10:45	60270075007	Water	2	X	X	007
8	MW-308	PS	5/8/2018 19:25	60270075008	Water	2	X	X	008
9	MW-309	PS	5/8/2018 19:05	60270075009	Water	2	X	X	009
10	MW-310	PS	5/8/2018 17:30	60270075010	Water	2	X	X	010
11	MW-311	PS	5/8/2018 18:20	60270075011	Water	2	X	X	011
12	FIELD BLANK	PS	5/9/2018 11:20	60270075012	Water	2	X	X	012

Transfers	Released By	Date/Time	Received By	Date/Time
1	E Brockett / Pasi	5/10/18 1645	[signature]	5/11/18 1015
2				
3				

Comments

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

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

Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name: Pace Kansas

Project # 30252585

Label BBH
LIMS Login BBH

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

Tracking #: 4360 7274 8864

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

pH paper Lot# 10D3671 Date and Initials of person examining contents: BBH 5.11.18

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: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, Phenolics	✓ ✓			16. pH<2 Initial when completed: BBH Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: BBH Date: 5-11-18

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.

A2 Assessment Monitoring Round 2, August 2018

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

August 27, 2018

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: BURLINGTON
Pace Project No.: 60277601

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on August 15, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Hank Kapka
hank.kapka@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Tom Karwaski, SCS Engineers
Nicole Kron, SCS Engineers
Jeff Maxted, Alliant Energy
Jess Valcheff, SCS Engeineers

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

CERTIFICATIONS

Project: BURLINGTON
Pace Project No.: 60277601

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Certification Number: 10090
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
Missouri Certification Number: 10090

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: BURLINGTON
Pace Project No.: 60277601

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60277601001	**MW-301**	Water	08/13/18 14:14	08/15/18 08:45
60277601002	**MW-302**	Water	08/13/18 13:24	08/15/18 08:45
60277601003	**MW-303**	Water	08/13/18 12:44	08/15/18 08:45
60277601004	**MW-304**	Water	08/13/18 11:45	08/15/18 08:45
60277601005	**MW-305**	Water	08/13/18 15:14	08/15/18 08:45
60277601006	**MW-306**	Water	08/14/18 10:24	08/15/18 08:45
60277601007	**MW-307**	Water	08/14/18 11:29	08/15/18 08:45
60277601008	**MW-308**	Water	08/13/18 16:09	08/15/18 08:45
60277601009	**MW-309**	Water	08/14/18 09:40	08/15/18 08:45
60277601010	**MW-310**	Water	08/14/18 08:04	08/15/18 08:45
60277601011	**MW-311**	Water	08/14/18 08:46	08/15/18 08:45
60277601012	**FIELD BLANK**	Water	08/13/18 12:17	08/15/18 08:45

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SAMPLE ANALYTE COUNT

Project: BURLINGTON
Pace Project No.: 60277601

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60277601001	**MW-301**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601002	**MW-302**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601003	**MW-303**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601004	**MW-304**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601005	**MW-305**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601006	**MW-306**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601007	**MW-307**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601008	**MW-308**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K

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SAMPLE ANALYTE COUNT

Project: BURLINGTON
Pace Project No.: 60277601

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601009	**MW-309**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601010	**MW-310**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601011	**MW-311**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K
60277601012	**FIELD BLANK**	EPA 6010	SMW	3	PASI-K
		EPA 6020	JGP	10	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	OL	3	PASI-K

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-301 **Lab ID: 60277601001** Collected: 08/13/18 14:14 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/13/18 14:14		
Collected Date	**08/13/2018**				1		08/13/18 14:14		
Collected Time	**1414**				1		08/13/18 14:14		
Field pH	**7.91**	Std. Units	0.10	0.050	1		08/13/18 14:14		
Field Temperature	**16.8**	deg C	0.50	0.25	1		08/13/18 14:14		
Field Specific Conductance	**1400**	umhos/cm	1.0	1.0	1		08/13/18 14:14		
Oxygen, Dissolved	**0.35**	mg/L			1		08/13/18 14:14	7782-44-7	
REDOX	**-145**	mV			1		08/13/18 14:14		
Turbidity	**5.78**	NTU	1.0	1.0	1		08/13/18 14:14		
Groundwater Elevation	**520.19**	feet			1		08/13/18 14:14		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**12800**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:01	7440-42-8	
Calcium	**174**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:01	7440-70-2	
Lithium	**18.9**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:01	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:38	7440-36-0	
Arsenic	**40.1**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:38	7440-38-2	
Barium	**420**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 15:38	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 15:38	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 15:38	7440-43-9	
Chromium	**0.36J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 15:38	7440-47-3	
Cobalt	**0.45J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:38	7440-48-4	
Lead	**0.13J**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 15:38	7439-92-1	
Molybdenum	**81.7**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 15:38	7439-98-7	
Selenium	**0.28J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 15:38	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**960**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		08/22/18 14:56		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.7**	mg/L	2.0	0.92	2		08/26/18 13:44	16887-00-6	M1
Fluoride	**0.52**	mg/L	0.20	0.063	1		08/25/18 10:24	16984-48-8	
Sulfate	**187**	mg/L	20.0	4.7	20		08/26/18 14:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-302 **Lab ID: 60277601002** Collected: 08/13/18 13:24 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/13/18 13:24		
Collected Date	**08/13/2018**				1		08/13/18 13:24		
Collected Time	**1324**				1		08/13/18 13:24		
Field pH	**9.32**	Std. Units	0.10	0.050	1		08/13/18 13:24		
Field Temperature	**14.9**	deg C	0.50	0.25	1		08/13/18 13:24		
Field Specific Conductance	**1226**	umhos/cm	1.0	1.0	1		08/13/18 13:24		
Oxygen, Dissolved	**0.15**	mg/L			1		08/13/18 13:24	7782-44-7	
REDOX	**-237**	mV			1		08/13/18 13:24		
Turbidity	**3.75**	NTU	1.0	1.0	1		08/13/18 13:24		
Groundwater Elevation	**519.87**	feet			1		08/13/18 13:24		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**10000**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:03	7440-42-8	
Calcium	**210**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:03	7440-70-2	
Lithium	**61.4**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:03	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:40	7440-36-0	
Arsenic	**49.6**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:40	7440-38-2	
Barium	**340**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 15:40	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 15:40	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 15:40	7440-43-9	
Chromium	**0.33J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 15:40	7440-47-3	
Cobalt	**0.15J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:40	7440-48-4	
Lead	**<0.12**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 15:40	7439-92-1	
Molybdenum	**121**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 15:40	7439-98-7	
Selenium	**0.22J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 15:40	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1000**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**8.0**	Std. Units	0.10	0.10	1		08/22/18 14:55		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**14.7**	mg/L	1.0	0.46	1		08/25/18 11:07	16887-00-6	
Fluoride	**<0.063**	mg/L	0.20	0.063	1		08/25/18 11:07	16984-48-8	
Sulfate	**542**	mg/L	50.0	11.8	50		08/26/18 15:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-303 **Lab ID: 60277601003** Collected: 08/13/18 12:44 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/13/18 12:44		
Collected Date	**08/13/2018**				1		08/13/18 12:44		
Collected Time	**1244**				1		08/13/18 12:44		
Field pH	**8.03**	Std. Units	0.10	0.050	1		08/13/18 12:44		
Field Temperature	**16.8**	deg C	0.50	0.25	1		08/13/18 12:44		
Field Specific Conductance	**748**	umhos/cm	1.0	1.0	1		08/13/18 12:44		
Oxygen, Dissolved	**0.24**	mg/L			1		08/13/18 12:44	7782-44-7	
REDOX	**-153**	mV			1		08/13/18 12:44		
Turbidity	**14.26**	NTU	1.0	1.0	1		08/13/18 12:44		
Groundwater Elevation	**519.78**	feet			1		08/13/18 12:44		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**24500**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:05	7440-42-8	
Calcium	**85.9**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:05	7440-70-2	
Lithium	**42.1**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:05	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:46	7440-36-0	
Arsenic	**52.0**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:46	7440-38-2	
Barium	**354**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 15:46	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 15:46	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 15:46	7440-43-9	
Chromium	**0.29J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 15:46	7440-47-3	
Cobalt	**0.46J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:46	7440-48-4	
Lead	**0.22J**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 15:46	7439-92-1	
Molybdenum	**77.9**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 15:46	7439-98-7	
Selenium	**0.24J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 15:46	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**520**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.3**	Std. Units	0.10	0.10	1		08/22/18 14:54		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**15.7**	mg/L	1.0	0.46	1		08/25/18 12:04	16887-00-6	
Fluoride	**0.44**	mg/L	0.20	0.063	1		08/25/18 12:04	16984-48-8	
Sulfate	**78.7**	mg/L	5.0	1.2	5		08/26/18 16:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-304 **Lab ID: 60277601004** Collected: 08/13/18 11:45 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/13/18 11:45		
Collected Date	**08/13/2018**				1		08/13/18 11:45		
Collected Time	**1145**				1		08/13/18 11:45		
Field pH	**7.60**	Std. Units	0.10	0.050	1		08/13/18 11:45		
Field Temperature	**18.1**	deg C	0.50	0.25	1		08/13/18 11:45		
Field Specific Conductance	**836**	umhos/cm	1.0	1.0	1		08/13/18 11:45		
Oxygen, Dissolved	**0.09**	mg/L			1		08/13/18 11:45	7782-44-7	
REDOX	**-202**	mV			1		08/13/18 11:45		
Turbidity	**4.26**	NTU	1.0	1.0	1		08/13/18 11:45		
Groundwater Elevation	**519.81**	feet			1		08/13/18 11:45		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5440**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:07	7440-42-8	
Calcium	**102**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:07	7440-70-2	
Lithium	**34.3**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:07	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.30J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:47	7440-36-0	
Arsenic	**45.4**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:47	7440-38-2	
Barium	**140**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 15:47	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 15:47	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 15:47	7440-43-9	
Chromium	**0.34J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 15:47	7440-47-3	
Cobalt	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:47	7440-48-4	
Lead	**<0.12**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 15:47	7439-92-1	
Molybdenum	**74.9**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 15:47	7439-98-7	
Selenium	**0.21J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 15:47	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**551**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.5**	Std. Units	0.10	0.10	1		08/22/18 14:48		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**25.9**	mg/L	2.0	0.92	2		08/26/18 16:19	16887-00-6	
Fluoride	**0.13J**	mg/L	0.20	0.063	1		08/25/18 12:18	16984-48-8	
Sulfate	**188**	mg/L	20.0	4.7	20		08/26/18 16:33	14808-79-8	

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-305 **Lab ID: 60277601005** Collected: 08/13/18 15:14 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/13/18 15:14		
Collected Date	**08/13/2018**				1		08/13/18 15:14		
Collected Time	**1514**				1		08/13/18 15:14		
Field pH	**7.81**	Std. Units	0.10	0.050	1		08/13/18 15:14		
Field Temperature	**16.3**	deg C	0.50	0.25	1		08/13/18 15:14		
Field Specific Conductance	**901**	umhos/cm	1.0	1.0	1		08/13/18 15:14		
Oxygen, Dissolved	**0.35**	mg/L			1		08/13/18 15:14	7782-44-7	
REDOX	**-134**	mV			1		08/13/18 15:14		
Turbidity	**3.85**	NTU	1.0	1.0	1		08/13/18 15:14		
Groundwater Elevation	**520.29**	feet			1		08/13/18 15:14		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2400**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:09	7440-42-8	
Calcium	**103**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:09	7440-70-2	
Lithium	**33.6**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:09	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:49	7440-36-0	
Arsenic	**0.39J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:49	7440-38-2	
Barium	**219**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 15:49	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 15:49	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 15:49	7440-43-9	
Chromium	**0.21J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 15:49	7440-47-3	
Cobalt	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:49	7440-48-4	
Lead	**<0.12**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 15:49	7439-92-1	
Molybdenum	**1.0**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 15:49	7439-98-7	
Selenium	**0.16J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 15:49	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**542**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.5**	Std. Units	0.10	0.10	1		08/22/18 14:58		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**34.8**	mg/L	5.0	2.3	5		08/26/18 16:47	16887-00-6	
Fluoride	**0.45**	mg/L	0.20	0.063	1		08/25/18 12:33	16984-48-8	
Sulfate	**24.8**	mg/L	5.0	1.2	5		08/26/18 16:47	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
Pace Project No.: 60277601

Sample: MW-306 **Lab ID: 60277601006** Collected: 08/14/18 10:24 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/14/18 10:24		
Collected Date	**08/14/2018**				1		08/14/18 10:24		
Collected Time	**1024**				1		08/14/18 10:24		
Field pH	**10.33**	Std. Units	0.10	0.050	1		08/14/18 10:24		
Field Temperature	**15.9**	deg C	0.50	0.25	1		08/14/18 10:24		
Field Specific Conductance	**447**	umhos/cm	1.0	1.0	1		08/14/18 10:24		
Oxygen, Dissolved	**0.30**	mg/L			1		08/14/18 10:24	7782-44-7	
REDOX	**-265**	mV			1		08/14/18 10:24		
Turbidity	**2.88**	NTU	1.0	1.0	1		08/14/18 10:24		
Groundwater Elevation	**520.14**	feet			1		08/14/18 10:24		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3430**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:11	7440-42-8	
Calcium	**33.5**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:11	7440-70-2	
Lithium	**46.8**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:11	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.4**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:55	7440-36-0	
Arsenic	**48.0**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:55	7440-38-2	
Barium	**15.5**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 15:55	7440-39-3	
Beryllium	**0.14J**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 15:55	7440-41-7	
Cadmium	**0.18J**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 15:55	7440-43-9	
Chromium	**0.25J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 15:55	7440-47-3	
Cobalt	**0.18J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:55	7440-48-4	
Lead	**0.69J**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 15:55	7439-92-1	
Molybdenum	**82.9**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 15:55	7439-98-7	
Selenium	**0.97J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 15:55	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**303**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**10**	Std. Units	0.10	0.10	1		08/22/18 15:06		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.6**	mg/L	2.0	0.92	2		08/26/18 17:29	16887-00-6	
Fluoride	**0.10J**	mg/L	0.20	0.063	1		08/25/18 12:47	16984-48-8	
Sulfate	**111**	mg/L	10.0	2.4	10		08/26/18 17:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-307 **Lab ID: 60277601007** Collected: 08/14/18 11:29 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/14/18 11:29		
Collected Date	**08/14/2018**				1		08/14/18 11:29		
Collected Time	**1129**				1		08/14/18 11:29		
Field pH	**10.12**	Std. Units	0.10	0.050	1		08/14/18 11:29		
Field Temperature	**15.6**	deg C	0.50	0.25	1		08/14/18 11:29		
Field Specific Conductance	**512**	umhos/cm	1.0	1.0	1		08/14/18 11:29		
Oxygen, Dissolved	**0.49**	mg/L			1		08/14/18 11:29	7782-44-7	
REDOX	**-221**	mV			1		08/14/18 11:29		
Turbidity	**5.09**	NTU	1.0	1.0	1		08/14/18 11:29		
Groundwater Elevation	**520.46**	feet			1		08/14/18 11:29		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4090**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:13	7440-42-8	
Calcium	**27.2**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:13	7440-70-2	
Lithium	**56.1**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:13	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.58J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:57	7440-36-0	
Arsenic	**52.3**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:57	7440-38-2	
Barium	**29.0**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 15:57	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 15:57	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 15:57	7440-43-9	
Chromium	**0.36J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 15:57	7440-47-3	
Cobalt	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:57	7440-48-4	
Lead	**0.43J**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 15:57	7439-92-1	
Molybdenum	**155**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 15:57	7439-98-7	
Selenium	**0.41J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 15:57	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**340**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**9.9**	Std. Units	0.10	0.10	1		08/22/18 15:07		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.1**	mg/L	2.0	0.92	2		08/26/18 17:57	16887-00-6	
Fluoride	**0.094J**	mg/L	0.20	0.063	1		08/25/18 13:01	16984-48-8	
Sulfate	**119**	mg/L	10.0	2.4	10		08/26/18 18:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-308 **Lab ID: 60277601008** Collected: 08/13/18 16:09 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/14/18 16:09		
Collected Date	**08/13/2018**				1		08/14/18 16:09		
Collected Time	**1609**				1		08/14/18 16:09		
Field pH	**9.86**	Std. Units	0.10	0.050	1		08/14/18 16:09		
Field Temperature	**15.4**	deg C	0.50	0.25	1		08/14/18 16:09		
Field Specific Conductance	**710**	umhos/cm	1.0	1.0	1		08/14/18 16:09		
Oxygen, Dissolved	**0.11**	mg/L			1		08/14/18 16:09	7782-44-7	
REDOX	**-238**	mV			1		08/14/18 16:09		
Turbidity	**4.63**	NTU	1.0	1.0	1		08/14/18 16:09		
Groundwater Elevation	**520.22**	feet			1		08/14/18 16:09		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**5070**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:16	7440-42-8	
Calcium	**28.7**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:16	7440-70-2	
Lithium	**52.0**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:16	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.32J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:59	7440-36-0	
Arsenic	**82.5**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:59	7440-38-2	
Barium	**67.1**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 15:59	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 15:59	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 15:59	7440-43-9	
Chromium	**<0.19**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 15:59	7440-47-3	
Cobalt	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 15:59	7440-48-4	
Lead	**0.27J**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 15:59	7439-92-1	
Molybdenum	**140**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 15:59	7439-98-7	
Selenium	**0.43J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 15:59	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**468**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**9.4**	Std. Units	0.10	0.10	1		08/22/18 14:59		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**36.7**	mg/L	5.0	2.3	5		08/26/18 18:25	16887-00-6	
Fluoride	**0.16J**	mg/L	0.20	0.063	1		08/25/18 13:15	16984-48-8	
Sulfate	**167**	mg/L	20.0	4.7	20		08/26/18 18:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-309 **Lab ID: 60277601009** Collected: 08/14/18 09:40 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/14/18 09:40		
Collected Date	**08/14/2018**				1		08/14/18 09:40		
Collected Time	**0940**				1		08/14/18 09:40		
Field pH	**7.39**	Std. Units	0.10	0.050	1		08/14/18 09:40		
Field Temperature	**14.2**	deg C	0.50	0.25	1		08/14/18 09:40		
Field Specific Conductance	**1093**	umhos/cm	1.0	1.0	1		08/14/18 09:40		
Oxygen, Dissolved	**0.14**	mg/L			1		08/14/18 09:40	7782-44-7	
REDOX	**-143**	mV			1		08/14/18 09:40		
Turbidity	**12.67**	NTU	1.0	1.0	1		08/14/18 09:40		
Groundwater Elevation	**520.22**	feet			1		08/14/18 09:40		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4930**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:22	7440-42-8	
Calcium	**74.1**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:22	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:22	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:00	7440-36-0	
Arsenic	**33.3**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:00	7440-38-2	
Barium	**180**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 16:00	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 16:00	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 16:00	7440-43-9	
Chromium	**0.22J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 16:00	7440-47-3	
Cobalt	**0.82J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:00	7440-48-4	
Lead	**<0.12**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 16:00	7439-92-1	
Molybdenum	**52.8**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 16:00	7439-98-7	
Selenium	**0.31J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 16:00	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**668**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.3**	Std. Units	0.10	0.10	1		08/22/18 15:05		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**111**	mg/L	10.0	4.6	10		08/26/18 18:53	16887-00-6	
Fluoride	**0.43**	mg/L	0.20	0.063	1		08/25/18 13:30	16984-48-8	
Sulfate	**98.9**	mg/L	10.0	2.4	10		08/26/18 18:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-310 **Lab ID: 60277601010** Collected: 08/14/18 08:04 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/14/18 08:04		
Collected Date	**08/14/2018**				1		08/14/18 08:04		
Collected Time	**0804**				1		08/14/18 08:04		
Field pH	**7.44**	Std. Units	0.10	0.050	1		08/14/18 08:04		
Field Temperature	**15.0**	deg C	0.50	0.25	1		08/14/18 08:04		
Field Specific Conductance	**840**	umhos/cm	1.0	1.0	1		08/14/18 08:04		
Oxygen, Dissolved	**0.05**	mg/L			1		08/14/18 08:04	7782-44-7	
REDOX	**-194**	mV			1		08/14/18 08:04		
Turbidity	**3.11**	NTU	1.0	1.0	1		08/14/18 08:04		
Groundwater Elevation	**523.69**	feet			1		08/14/18 08:04		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**256**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:24	7440-42-8	
Calcium	**102**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:24	7440-70-2	
Lithium	**5.3J**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:24	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:02	7440-36-0	
Arsenic	**56.2**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:02	7440-38-2	
Barium	**398**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 16:02	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 16:02	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 16:02	7440-43-9	
Chromium	**<0.19**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 16:02	7440-47-3	
Cobalt	**1.4**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:02	7440-48-4	
Lead	**<0.12**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 16:02	7439-92-1	
Molybdenum	**4.0**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 16:02	7439-98-7	
Selenium	**<0.16**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 16:02	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**472**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.3**	Std. Units	0.10	0.10	1		08/22/18 15:00		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**33.8**	mg/L	2.0	0.92	2		08/26/18 19:07	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	0.063	1		08/25/18 13:44	16984-48-8	
Sulfate	**27.2**	mg/L	2.0	0.47	2		08/26/18 19:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: MW-311 **Lab ID: 60277601011** Collected: 08/14/18 08:46 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		08/14/18 08:46		
Collected Date	**08/14/2018**				1		08/14/18 08:46		
Collected Time	**0846**				1		08/14/18 08:46		
Field pH	**7.33**	Std. Units	0.10	0.050	1		08/14/18 08:46		
Field Temperature	**14.8**	deg C	0.50	0.25	1		08/14/18 08:46		
Field Specific Conductance	**1177**	umhos/cm	1.0	1.0	1		08/14/18 08:46		
Oxygen, Dissolved	**0.12**	mg/L			1		08/14/18 08:46	7782-44-7	
REDOX	**-158.0**	mV			1		08/14/18 08:46		
Turbidity	**12.30**	NTU	1.0	1.0	1		08/14/18 08:46		
Groundwater Elevation	**521.06**	feet			1		08/14/18 08:46		
6010 MET ICP	Analytical Method: EPA 6010	Preparation Method: EPA 3010							
Boron	**2580**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:26	7440-42-8	
Calcium	**156**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:26	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:26	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020	Preparation Method: EPA 3010							
Antimony	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:10	7440-36-0	
Arsenic	**15.7**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:10	7440-38-2	
Barium	**239**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 16:10	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 16:10	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 16:10	7440-43-9	
Chromium	**0.22J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 16:10	7440-47-3	
Cobalt	**0.37J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:10	7440-48-4	
Lead	**0.13J**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 16:10	7439-92-1	
Molybdenum	**13.9**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 16:10	7439-98-7	
Selenium	**0.18J**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 16:10	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**777**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**7.2**	Std. Units	0.10	0.10	1		08/22/18 15:02		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**69.9**	mg/L	10.0	4.6	10		08/26/18 19:21	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.063	1		08/25/18 13:58	16984-48-8	
Sulfate	**144**	mg/L	10.0	2.4	10		08/26/18 19:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60277601

Sample: FIELD BLANK **Lab ID: 60277601012** Collected: 08/13/18 12:17 Received: 08/15/18 08:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**38.0J**	ug/L	100	12.5	1	08/15/18 15:45	08/17/18 15:28	7440-42-8	
Calcium	**<0.054**	mg/L	0.20	0.054	1	08/15/18 15:45	08/17/18 15:28	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	08/15/18 15:45	08/17/18 15:28	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:08	7440-36-0	
Arsenic	**0.36J**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:08	7440-38-2	
Barium	**1.1**	ug/L	1.0	0.34	1	08/15/18 15:45	08/20/18 16:08	7440-39-3	
Beryllium	**<0.12**	ug/L	0.50	0.12	1	08/15/18 15:45	08/20/18 16:08	7440-41-7	
Cadmium	**<0.070**	ug/L	0.50	0.070	1	08/15/18 15:45	08/20/18 16:08	7440-43-9	
Chromium	**0.43J**	ug/L	1.0	0.19	1	08/15/18 15:45	08/20/18 16:08	7440-47-3	
Cobalt	**<0.15**	ug/L	1.0	0.15	1	08/15/18 15:45	08/20/18 16:08	7440-48-4	
Lead	**<0.12**	ug/L	1.0	0.12	1	08/15/18 15:45	08/20/18 16:08	7439-92-1	
Molybdenum	**0.47J**	ug/L	1.0	0.13	1	08/15/18 15:45	08/20/18 16:08	7439-98-7	
Selenium	**<0.16**	ug/L	1.0	0.16	1	08/15/18 15:45	08/20/18 16:08	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**9.3**	mg/L	5.0	5.0	1		08/20/18 14:54		
9040 pH	Analytical Method: EPA 9040								
pH	**6.0**	Std. Units	0.10	0.10	1		08/22/18 14:52		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**<0.46**	mg/L	1.0	0.46	1		08/25/18 09:05	16887-00-6	
Fluoride	**<0.063**	mg/L	0.20	0.063	1		08/25/18 09:05	16984-48-8	
Sulfate	**<0.24**	mg/L	1.0	0.24	1		08/25/18 09:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60277601

QC Batch: 539622 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011, 60277601012

METHOD BLANK: 2210798 Matrix: Water
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011, 60277601012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<12.5	100	12.5	08/17/18 14:30	
Calcium	mg/L	<0.054	0.20	0.054	08/17/18 14:30	
Lithium	ug/L	<4.6	10.0	4.6	08/17/18 14:30	

LABORATORY CONTROL SAMPLE: 2210799

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	1010	101	80-120	
Calcium	mg/L	10	9.6	96	80-120	
Lithium	ug/L	1000	1140	114	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2210800 2210801

Parameter	Units	60277251003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	8030	1000	1000	8960	8730	93	69	75-125	3	20	M1
Calcium	mg/L	55200	10	10	65.3	64.1	101	89	75-125	2	20	
Lithium	ug/L	22.1 ug/L	1000	1000	1100	1070	107	104	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60277601

QC Batch: 539623 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011, 60277601012

METHOD BLANK: 2210802 Matrix: Water
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011, 60277601012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.15	1.0	0.15	08/20/18 16:51	
Arsenic	ug/L	<0.15	1.0	0.15	08/20/18 16:51	
Barium	ug/L	<0.34	1.0	0.34	08/20/18 16:51	
Beryllium	ug/L	<0.12	0.50	0.12	08/20/18 16:51	
Cadmium	ug/L	<0.070	0.50	0.070	08/20/18 16:51	
Chromium	ug/L	<0.19	1.0	0.19	08/20/18 16:51	
Cobalt	ug/L	<0.15	1.0	0.15	08/20/18 16:51	
Lead	ug/L	<0.12	1.0	0.12	08/20/18 16:51	
Molybdenum	ug/L	<0.13	1.0	0.13	08/20/18 16:51	
Selenium	ug/L	<0.16	1.0	0.16	08/20/18 16:51	

LABORATORY CONTROL SAMPLE: 2210803

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.6	101	80-120	
Arsenic	ug/L	40	40.0	100	80-120	
Barium	ug/L	40	39.7	99	80-120	
Beryllium	ug/L	40	40.1	100	80-120	
Cadmium	ug/L	40	40.5	101	80-120	
Chromium	ug/L	40	40.4	101	80-120	
Cobalt	ug/L	40	38.0	95	80-120	
Lead	ug/L	40	39.7	99	80-120	
Molybdenum	ug/L	40	40.5	101	80-120	
Selenium	ug/L	40	39.7	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2210804 2210805

Parameter	Units	60277601005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.15	40	40	39.9	39.6	100	99	75-125	1	20	
Arsenic	ug/L	0.39J	40	40	40.3	40.0	100	99	75-125	1	20	
Barium	ug/L	219	40	40	261	257	105	96	75-125	1	20	
Beryllium	ug/L	<0.12	40	40	38.3	36.9	96	92	75-125	4	20	
Cadmium	ug/L	<0.070	40	40	38.9	38.5	97	96	75-125	1	20	
Chromium	ug/L	0.21J	40	40	40.6	40.4	101	100	75-125	1	20	
Cobalt	ug/L	<0.15	40	40	38.6	38.3	96	96	75-125	1	20	
Lead	ug/L	<0.12	40	40	37.0	37.4	92	93	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60277601

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2210804 2210805

Parameter	Units	60277601005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	1.0	40	40	42.7	42.3	104	103	75-125	1	20	
Selenium	ug/L	0.16J	40	40	37.4	37.4	93	93	75-125	0	20	

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60277601

QC Batch: 540367 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011, 60277601012

METHOD BLANK: 2214119 Matrix: Water
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011, 60277601012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	08/20/18 14:54	

LABORATORY CONTROL SAMPLE: 2214120

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

SAMPLE DUPLICATE: 2214121

Parameter	Units	60277422001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1020	1010	1	10	

SAMPLE DUPLICATE: 2214122

Parameter	Units	60277601012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	9.3	9.3	0	10	

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60277601

QC Batch: 540890 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011, 60277601012

SAMPLE DUPLICATE: 2216065

Parameter	Units	60277601004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.5	7.5	0	10	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60277601

QC Batch: 541415 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011, 60277601012

METHOD BLANK: 2218674 Matrix: Water
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011, 60277601012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.46	1.0	0.46	08/25/18 08:27	
Fluoride	mg/L	<0.063	0.20	0.063	08/25/18 08:27	
Sulfate	mg/L	<0.24	1.0	0.24	08/25/18 08:27	

LABORATORY CONTROL SAMPLE: 2218675

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	2.6	103	80-120	
Sulfate	mg/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2218676 2218677

Parameter	Units	60277601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.52	2.5	2.5	3.2	3.2	105	107	80-120	1	15	

SAMPLE DUPLICATE: 2218678

Parameter	Units	60277601002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	14.7	14.7	0	15	
Fluoride	mg/L	<0.063	<0.063		15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60277601

QC Batch: 541459 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011

METHOD BLANK: 2219128 Matrix: Water
Associated Lab Samples: 60277601001, 60277601002, 60277601003, 60277601004, 60277601005, 60277601006, 60277601007, 60277601008, 60277601009, 60277601010, 60277601011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.46	1.0	0.46	08/26/18 13:15	
Sulfate	mg/L	<0.24	1.0	0.24	08/26/18 13:15	

LABORATORY CONTROL SAMPLE: 2219129

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2219130 2219131

Parameter	Units	60277601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.7	10	10	33.9	34.8	122	131	80-120	3	15	M1
Sulfate	mg/L	187	100	100	289	290	102	103	80-120	0	15	

SAMPLE DUPLICATE: 2219132

Parameter	Units	60277601002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	542	541	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BURLINGTON
Pace Project No.: 60277601

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-K	Pace Analytical Services - Kansas City

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURLINGTON
Pace Project No.: 60277601

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60277601001	MW-301		540023		
60277601002	MW-302		540023		
60277601003	MW-303		540023		
60277601004	MW-304		540023		
60277601005	MW-305		540023		
60277601006	MW-306		540023		
60277601007	MW-307		540023		
60277601008	MW-308		540023		
60277601009	MW-309		540023		
60277601010	MW-310		540023		
60277601011	MW-311		540023		
60277601001	MW-301	EPA 3010	539622	EPA 6010	539650
60277601002	MW-302	EPA 3010	539622	EPA 6010	539650
60277601003	MW-303	EPA 3010	539622	EPA 6010	539650
60277601004	MW-304	EPA 3010	539622	EPA 6010	539650
60277601005	MW-305	EPA 3010	539622	EPA 6010	539650
60277601006	MW-306	EPA 3010	539622	EPA 6010	539650
60277601007	MW-307	EPA 3010	539622	EPA 6010	539650
60277601008	MW-308	EPA 3010	539622	EPA 6010	539650
60277601009	MW-309	EPA 3010	539622	EPA 6010	539650
60277601010	MW-310	EPA 3010	539622	EPA 6010	539650
60277601011	MW-311	EPA 3010	539622	EPA 6010	539650
60277601012	FIELD BLANK	EPA 3010	539622	EPA 6010	539650
60277601001	MW-301	EPA 3010	539623	EPA 6020	539649
60277601002	MW-302	EPA 3010	539623	EPA 6020	539649
60277601003	MW-303	EPA 3010	539623	EPA 6020	539649
60277601004	MW-304	EPA 3010	539623	EPA 6020	539649
60277601005	MW-305	EPA 3010	539623	EPA 6020	539649
60277601006	MW-306	EPA 3010	539623	EPA 6020	539649
60277601007	MW-307	EPA 3010	539623	EPA 6020	539649
60277601008	MW-308	EPA 3010	539623	EPA 6020	539649
60277601009	MW-309	EPA 3010	539623	EPA 6020	539649
60277601010	MW-310	EPA 3010	539623	EPA 6020	539649
60277601011	MW-311	EPA 3010	539623	EPA 6020	539649
60277601012	FIELD BLANK	EPA 3010	539623	EPA 6020	539649
60277601001	MW-301	SM 2540C	540367		
60277601002	MW-302	SM 2540C	540367		
60277601003	MW-303	SM 2540C	540367		
60277601004	MW-304	SM 2540C	540367		
60277601005	MW-305	SM 2540C	540367		
60277601006	MW-306	SM 2540C	540367		
60277601007	MW-307	SM 2540C	540367		
60277601008	MW-308	SM 2540C	540367		
60277601009	MW-309	SM 2540C	540367		
60277601010	MW-310	SM 2540C	540367		
60277601011	MW-311	SM 2540C	540367		
60277601012	FIELD BLANK	SM 2540C	540367		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURLINGTON
Pace Project No.: 60277601

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60277601001	**MW-301**	EPA 9040	540890		
60277601002	**MW-302**	EPA 9040	540890		
60277601003	**MW-303**	EPA 9040	540890		
60277601004	**MW-304**	EPA 9040	540890		
60277601005	**MW-305**	EPA 9040	540890		
60277601006	**MW-306**	EPA 9040	540890		
60277601007	**MW-307**	EPA 9040	540890		
60277601008	**MW-308**	EPA 9040	540890		
60277601009	**MW-309**	EPA 9040	540890		
60277601010	**MW-310**	EPA 9040	540890		
60277601011	**MW-311**	EPA 9040	540890		
60277601012	**FIELD BLANK**	EPA 9040	540890		
60277601001	**MW-301**	EPA 9056	541415		
60277601001	**MW-301**	EPA 9056	541459		
60277601002	**MW-302**	EPA 9056	541415		
60277601002	**MW-302**	EPA 9056	541459		
60277601003	**MW-303**	EPA 9056	541415		
60277601003	**MW-303**	EPA 9056	541459		
60277601004	**MW-304**	EPA 9056	541415		
60277601004	**MW-304**	EPA 9056	541459		
60277601005	**MW-305**	EPA 9056	541415		
60277601005	**MW-305**	EPA 9056	541459		
60277601006	**MW-306**	EPA 9056	541415		
60277601006	**MW-306**	EPA 9056	541459		
60277601007	**MW-307**	EPA 9056	541415		
60277601007	**MW-307**	EPA 9056	541459		
60277601008	**MW-308**	EPA 9056	541415		
60277601008	**MW-308**	EPA 9056	541459		
60277601009	**MW-309**	EPA 9056	541415		
60277601009	**MW-309**	EPA 9056	541459		
60277601010	**MW-310**	EPA 9056	541415		
60277601010	**MW-310**	EPA 9056	541459		
60277601011	**MW-311**	EPA 9056	541415		
60277601011	**MW-311**	EPA 9056	541459		
60277601012	**FIELD BLANK**	EPA 9056	541415		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO# : 60277601

60277601

Client Name: SCS Engineers

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

Tracking #: 4542 2778 9393 / 9327 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-297 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.0 **Corr. Factor** +0.9 **Corrected** 1.9 / 3.6

Temperature should be above freezing to 6°C 2-7

Date and initials of person examining contents: AC 8/15

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? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒Yes ☐No ☐N/A	List sample IDs volumes lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☒No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☒No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐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: of

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:	25216066.18	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. 60277601

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	6010 Total Metals: B-Ca-Li	6020 Total Metals *		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	8/13/18	1414		3	1		2							X	X		X	X	X	BP2U, 2BP3N		001
2	MW-302	WT	G	xxx	xxx	8/13/18	1324		3	1		2							X	X		X	X	X	↓		002
3	MW-303	WT	G	xxx	xxx	8/13/18	1244		3	1		2							X	X		X	X	X	↓		003
4	MW-304	WT	G	xxx	xxx	8/13/18	1145		3	1		2							X	X		X	X	X	↓		004
5	MW-305	WT	G	xxx	xxx	8/13/18	1514		3	1		2							X	X		X	X	X	↓		005
6	~~MW-306~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
7	~~MW-307~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
8	~~MW-308~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
9	~~MW-309~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
10	~~MW-310~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
11	~~MW-311~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
12	FIELD BLANK	WT	G	xxx	xxx	8/13/18	1217		3	1		2							X	X		X	X	X	BP2U 2BP3N		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Charles A Bills SCS	8/14/18	1800	[signature] PASI	8/15/18	08:45	3.6	Y	Y	Y
Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se										
							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: Charles A Bills

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 8/14/18

*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

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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: of

Section A Required Client Information:

Company:	SCS Engineers
Address:	2830 Dairy Drive
	Madison WI 53718
Email To:	mblodgett@scsengineers.com
Phone: 608-216-7362	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Meghan Blodgett
Copy To:	Tom Karwaski
Purchase Order No.:	
Project Name:	Burlington
Project Number:	25216066.18

Section C Invoice Information:

Attention:	Meghan Blodgett/Jess Valcheff
Company Name:	SCS Engineers
Address:	
Pace Quote Reference:	
Pace Project Manager:	Trudy Gipson 913-563-1405
Pace Profile #:	6696 Line 2

REGULATORY AGENCY

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

Site Location STATE: IA

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	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 *	[illegible]	9056 Chloride-Fluoride-Sulfate	2540C TDS	9040 pH	8/15/18 AC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	N							
1	~~MW-301~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X	BP2U 2		6027601
2	~~MW-302~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
3	~~MW-303~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
4	~~MW-304~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
5	~~MW-305~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			
6	MW-306	WT	G	xxx	xxx	8/14/18	1024		3	1		2							X	X		X	X	X	BP2U 2BP3N		06
7	MW-307	WT	G	xxx	xxx	8/14/18	1129		3	1		2							X	X		X	X	X			07
8	MW-308	WT	G	xxx	xxx	8/13/18	1609		3	1		2							X	X		X	X	X			08
9	MW-309	WT	G	xxx	xxx	8/14/18	0940		3	1		2							X	X		X	X	X			09
10	MW-310	WT	G	xxx	xxx	8/14/18	0804		3	1		2							X	X		X	X	X			010
11	MW-311	WT	G	xxx	xxx	8/14/18	0846		3	1		2							X	X		X	X	X			011
12	~~FIELD BLANK~~	WT	G	xxx	xxx				3	1		2							X	X		X	X	X			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Charles SCS	8/14/18	1700	Kansas City PSI	8/15/18	08:45	1.9	4	4	4
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Charles A Bills

SIGNATURE of SAMPLER: Charles A Bills DATE Signed (MM/DD/YY): 8/14/18

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

August 31, 2018

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: BURLINGTON
Pace Project No.: 60277647

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on August 15, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Hank Kapka
hank.kapka@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Tom Karwaski, SCS Engineers
Nicole Kron, SCS Engineers
Jeff Maxted, Alliant Energy
Jess Valcheff, SCS Engeineers

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

CERTIFICATIONS

Project: BURLINGTON
Pace Project No.: 60277647

Pennsylvania Certification IDs

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

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: BURLINGTON
Pace Project No.: 60277647

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60277647001	**MW-301**	Water	08/13/18 14:14	08/15/18 08:45
60277647002	**MW-302**	Water	08/13/18 13:24	08/15/18 08:45
60277647003	**MW-303**	Water	08/13/18 12:44	08/15/18 08:45
60277647004	**MW-304**	Water	08/13/18 11:45	08/15/18 08:45
60277647005	**MW-305**	Water	08/13/18 15:14	08/15/18 08:45
60277647006	**FIELD BLANK**	Water	08/13/18 12:17	08/15/18 08:45
60277646001	**MW-306**	Water	08/14/18 10:24	08/15/18 08:45
60277646002	**MW-307**	Water	08/14/18 11:29	08/15/18 08:45
60277646003	**MW-308**	Water	08/13/18 16:09	08/15/18 08:45
60277646004	**MW-309**	Water	08/14/18 09:40	08/15/18 08:45
60277646005	**MW-310**	Water	08/14/18 08:04	08/15/18 08:45
60277646006	**MW-311**	Water	08/14/18 08:46	08/15/18 08:45

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SAMPLE ANALYTE COUNT

Project: BURLINGTON
Pace Project No.: 60277647

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60277647001	**MW-301**	EPA 903.1	KAC	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277647002	**MW-302**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277647003	**MW-303**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277647004	**MW-304**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277647005	**MW-305**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277647006	**FIELD BLANK**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277646001	**MW-306**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277646002	**MW-307**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277646003	**MW-308**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277646004	**MW-309**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277646005	**MW-310**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60277646006	**MW-311**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-301 **Lab ID: 60277647001** Collected: 08/13/18 14:14 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.693 ± 0.453 (0.555) C:NA T:91%**	pCi/L	08/31/18 11:15	13982-63-3	
Radium-228	EPA 904.0	**0.459 ± 0.388 (0.774) C:70% T:81%**	pCi/L	08/30/18 12:04	15262-20-1	
Total Radium	Total Radium Calculation	**1.15 ± 0.841 (1.33)**	pCi/L	08/31/18 14:22	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
Pace Project No.: 60277647

Sample: MW-302 **Lab ID: 60277647002** Collected: 08/13/18 13:24 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.443 ± 0.396 (0.508) C:NA T:80%**	pCi/L	08/28/18 12:39	13982-63-3	
Radium-228	EPA 904.0	**1.09 ± 0.492 (0.812) C:73% T:83%**	pCi/L	08/27/18 16:38	15262-20-1	
Total Radium	Total Radium Calculation	**1.53 ± 0.888 (1.32)**	pCi/L	08/29/18 14:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-303 **Lab ID: 60277647003** Collected: 08/13/18 12:44 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.462 ± 0.524 (0.815) C:NA T:96%**	pCi/L	08/28/18 12:39	13982-63-3	
Radium-228	EPA 904.0	**1.33 ± 0.615 (1.05) C:73% T:72%**	pCi/L	08/27/18 16:44	15262-20-1	
Total Radium	Total Radium Calculation	**1.79 ± 1.14 (1.87)**	pCi/L	08/29/18 14:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-304 **Lab ID: 60277647004** Collected: 08/13/18 11:45 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.151 ± 0.468 (0.907) C:NA T:93%**	pCi/L	08/28/18 19:24	13982-63-3	
Radium-228	EPA 904.0	**0.574 ± 0.504 (1.03) C:71% T:82%**	pCi/L	08/27/18 16:36	15262-20-1	
Total Radium	Total Radium Calculation	**0.725 ± 0.972 (1.94)**	pCi/L	08/30/18 15:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-305 **Lab ID: 60277647005** Collected: 08/13/18 15:14 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.411 ± 0.504 (0.822) C:NA T:95%**	pCi/L	08/28/18 19:24	13982-63-3	
Radium-228	EPA 904.0	**1.37 ± 0.599 (0.998) C:70% T:79%**	pCi/L	08/27/18 16:36	15262-20-1	
Total Radium	Total Radium Calculation	**1.78 ± 1.10 (1.82)**	pCi/L	08/30/18 15:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: FIELD BLANK **Lab ID: 60277647006** Collected: 08/13/18 12:17 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.218 ± 0.474 (0.874) C:NA T:89%**	pCi/L	08/28/18 19:35	13982-63-3	
Radium-228	EPA 904.0	**0.370 ± 0.463 (0.985) C:70% T:80%**	pCi/L	08/27/18 16:36	15262-20-1	
Total Radium	Total Radium Calculation	**0.588 ± 0.937 (1.86)**	pCi/L	08/30/18 15:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-306 **Lab ID: 60277646001** Collected: 08/14/18 10:24 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.397 ± 0.563 (0.954) C:NA T:76%**	pCi/L	08/28/18 19:24	13982-63-3	
Radium-228	EPA 904.0	**0.640 ± 0.682 (1.43) C:66% T:62%**	pCi/L	08/27/18 16:37	15262-20-1	
Total Radium	Total Radium Calculation	**1.04 ± 1.25 (2.38)**	pCi/L	08/30/18 15:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-307 **Lab ID: 60277646002** Collected: 08/14/18 11:29 Received: 08/15/18 08:45 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 ± 0.419 (0.908) C:NA T:90%**	pCi/L	08/28/18 19:24	13982-63-3	
Radium-228	EPA 904.0	**0.415 ± 0.447 (0.930) C:69% T:78%**	pCi/L	08/27/18 16:37	15262-20-1	
Total Radium	Total Radium Calculation	**0.415 ± 0.866 (1.84)**	pCi/L	08/30/18 15:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-308 **Lab ID: 60277646003** Collected: 08/13/18 16:09 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0726 ± 0.427 (0.872) C:NA T:89%**	pCi/L	08/28/18 19:24	13982-63-3	
Radium-228	EPA 904.0	**-0.0686 ± 0.479 (1.12) C:71% T:79%**	pCi/L	08/27/18 16:37	15262-20-1	
Total Radium	Total Radium Calculation	**0.0726 ± 0.906 (1.99)**	pCi/L	08/30/18 15:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-309 **Lab ID: 60277646004** Collected: 08/14/18 09:40 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.280 ± 0.477 (0.841) C:NA T:87%**	pCi/L	08/28/18 19:39	13982-63-3	
Radium-228	EPA 904.0	**0.680 ± 0.519 (1.02) C:66% T:76%**	pCi/L	08/27/18 16:37	15262-20-1	
Total Radium	Total Radium Calculation	**0.960 ± 0.996 (1.86)**	pCi/L	08/30/18 15:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-310 **Lab ID: 60277646005** Collected: 08/14/18 08:04 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.616 ± 0.608 (0.925) C:NA T:82%**	pCi/L	08/28/18 19:39	13982-63-3	
Radium-228	EPA 904.0	**0.938 ± 0.506 (0.907) C:71% T:78%**	pCi/L	08/27/18 16:37	15262-20-1	
Total Radium	Total Radium Calculation	**1.55 ± 1.11 (1.83)**	pCi/L	08/30/18 15:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

Sample: MW-311 **Lab ID: 60277646006** Collected: 08/14/18 08:46 Received: 08/15/18 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.502 ± 0.510 (0.772) C:NA T:91%**	pCi/L	08/28/18 19:39	13982-63-3	
Radium-228	EPA 904.0	**0.467 ± 0.407 (0.818) C:69% T:85%**	pCi/L	08/27/18 16:37	15262-20-1	
Total Radium	Total Radium Calculation	**0.969 ± 0.917 (1.59)**	pCi/L	08/30/18 15:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

QC Batch: 310326 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60277646001, 60277646002, 60277646003, 60277646004, 60277646005, 60277646006, 60277647002, 60277647003, 60277647004, 60277647005, 60277647006

METHOD BLANK: 1516036 Matrix: Water
Associated Lab Samples: 60277646001, 60277646002, 60277646003, 60277646004, 60277646005, 60277646006, 60277647002, 60277647003, 60277647004, 60277647005, 60277647006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.254 ± 0.457 (0.780) C:NA T:86%	pCi/L	08/28/18 12:10	

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 - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

QC Batch: 310476 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60277647001

METHOD BLANK: 1516688 Matrix: Water
Associated Lab Samples: 60277647001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0618 ± 0.346 (0.664) C:NA T:92%	pCi/L	08/31/18 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
Pace Project No.: 60277647

QC Batch: 310331 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60277646001, 60277646002, 60277646003, 60277646004, 60277646005, 60277646006, 60277647002, 60277647003, 60277647004, 60277647005, 60277647006

METHOD BLANK: 1516044 Matrix: Water
Associated Lab Samples: 60277646001, 60277646002, 60277646003, 60277646004, 60277646005, 60277646006, 60277647002, 60277647003, 60277647004, 60277647005, 60277647006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.961 ± 0.499 (0.879) C:69% T:74%	pCi/L	08/27/18 13:02	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: BURLINGTON
Pace Project No.: 60277647

QC Batch: 310477 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60277647001

METHOD BLANK: 1516689 Matrix: Water
Associated Lab Samples: 60277647001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.457 ± 0.430 (0.875) C:67% T:74%	pCi/L	08/30/18 12:04	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BURLINGTON
Pace Project No.: 60277647

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

Unc - Uncertainty: 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
Pace Project No.: 60277647

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60277646001	MW-306	EPA 903.1	310326		
60277646002	MW-307	EPA 903.1	310326		
60277646003	MW-308	EPA 903.1	310326		
60277646004	MW-309	EPA 903.1	310326		
60277646005	MW-310	EPA 903.1	310326		
60277646006	MW-311	EPA 903.1	310326		
60277647001	MW-301	EPA 903.1	310476		
60277647002	MW-302	EPA 903.1	310326		
60277647003	MW-303	EPA 903.1	310326		
60277647004	MW-304	EPA 903.1	310326		
60277647005	MW-305	EPA 903.1	310326		
60277647006	FIELD BLANK	EPA 903.1	310326		
60277646001	MW-306	EPA 904.0	310331		
60277646002	MW-307	EPA 904.0	310331		
60277646003	MW-308	EPA 904.0	310331		
60277646004	MW-309	EPA 904.0	310331		
60277646005	MW-310	EPA 904.0	310331		
60277646006	MW-311	EPA 904.0	310331		
60277647001	MW-301	EPA 904.0	310477		
60277647002	MW-302	EPA 904.0	310331		
60277647003	MW-303	EPA 904.0	310331		
60277647004	MW-304	EPA 904.0	310331		
60277647005	MW-305	EPA 904.0	310331		
60277647006	FIELD BLANK	EPA 904.0	310331		
60277646001	MW-306	Total Radium Calculation	311527		
60277646002	MW-307	Total Radium Calculation	311527		
60277646003	MW-308	Total Radium Calculation	311527		
60277646004	MW-309	Total Radium Calculation	311527		
60277646005	MW-310	Total Radium Calculation	311527		
60277646006	MW-311	Total Radium Calculation	311527		
60277647001	MW-301	Total Radium Calculation	311666		
60277647002	MW-302	Total Radium Calculation	311345		
60277647003	MW-303	Total Radium Calculation	311345		
60277647004	MW-304	Total Radium Calculation	311527		
60277647005	MW-305	Total Radium Calculation	311527		
60277647006	FIELD BLANK	Total Radium Calculation	311527		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO# : 60277647

60277647

Client Name: SCS

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

Tracking #: 4542 2778 9316 Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑

Thermometer Used: T-298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 8.6 Corr. Factor +1.1 Corrected 9.7

Date and initials of person examining contents: SDE 8-15-18 HK

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐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: HWK Date: 8-15-2018

CHAIN-OF-CUSTODY / Analytical Request Document

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

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Page: of

Section A — **Required** Client Information:

Company:	SCS Engineers
Address:	2830 Dairy Drive
	Madison WI 53718
Email To:	mblodgett@scsengineers.com
Phone: 608-216-7362	Fax:
Requested Due Date/TAT:	

Section B — **Required** Project Information:

Report To:	Meghan Blodgett
Copy To:	Tom Karwaski
Purchase Order No.:	
Project Name:	Burlington
Project Number:	25216066.18

Section C — Invoice Information:

Attention:	Meghan Blodgett/Jess Valcheff
Company Name:	SCS Engineers
Address:	
Pace Quote Reference:	
Pace Project Manager:	Trudy Gipson 913-563-1405
Pace Profile #:	6696 Line 2

REGULATORY AGENCY

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

Site Location STATE: IA

Section D — **Required** Client Information

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

Valid Matrix Codes

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

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.
																		Requested Analysis Filtered (Y/N)					10277647
1	MW-301	WT	G	xxx	xxx	8/13/18	1414		2			2							X	X	X		001
2	MW-302	WT	G	xxx	xxx	8/13/18	1324		2			2							X	X	X		002
3	MW-303	WT	G	xxx	xxx	8/13/18	1244		2			2							X	X	X		003
4	MW-304	WT	G	xxx	xxx	8/13/18	1145		2			2							X	X	X		004
5	MW-305	WT	G	xxx	xxx	8/13/18	1514		2			2							X	X	X		005
6	~~MW-306~~	WT	G	xxx	xxx				2			2							X	X	X		
7	~~MW-307~~	WT	G	xxx	xxx				2			2							X	X	X		
8	~~MW-308~~	WT	G	xxx	xxx				2			2							X	X	X		
9	~~MW-309~~	WT	G	xxx	xxx				2			2							X	X	X		
10	~~MW-310~~	WT	G	xxx	xxx				2			2							X	X	X		
11	~~MW-311~~	WT	G	xxx	xxx				2			2							X	X	X		
12	FIELD BLANK	WT	G	xxx	xxx	8/13/18	1217		2			2							X	X	X		006

BP1N(2) BP1N(2)

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	Charles A. Bills SCS	8/14/18	1800	PACE	8-15-18	0845	9.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Charles A. Bills

SIGNATURE of SAMPLER: Charles A. Bills — DATE Signed (MM/DD/YY): 8/14/18

*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
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A Required Client Information:

Company:	SCS Engineers
Address:	2830 Dairy Drive
	Madison WI 53718
Email To:	mblodgett@scsengineers.com
Phone: 608-216-7362	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Meghan Blodgett
Copy To:	Tom Karwaski
Purchase Order No.:	
Project Name:	Burlington
Project Number:	25216066.18

Section C Invoice Information:

Attention:	Meghan Blodgett/Jess Valcheff
Company Name:	SCS Engineers
Address:	
Pace Quote Reference:	
Pace Project Manager:	Trudy Gipson 913-563-1405
Pace Profile #:	6696 Line 2

REGULATORY AGENCY

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

Site Location STATE: IA

Section D Required Client Information

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

Valid Matrix Codes

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

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				2			2						X	X	X			
2	~~MW-302~~	WT	G	xxx	xxx				2			2						X	X	X			
3	~~MW-303~~	WT	G	xxx	xxx				2			2						X	X	X			
4	~~MW-304~~	WT	G	xxx	xxx				2			2						X	X	X			
5	~~MW-305~~	WT	G	xxx	xxx				2			2						X	X	X			
6	MW-306	WT	G	xxx	xxx	8/14/18	1024		2			2						X	X	X			
7	MW-307	WT	G	xxx	xxx	8/14/18	1124		2			2						X	X	X			
8	MW-308	WT	G	xxx	xxx	8/13/18	1609		2			2						X	X	X			
9	MW-309	WT	G	xxx	xxx	8/14/18	0940		2			2						X	X	X			
10	MW-310	WT	G	xxx	xxx	8/14/18	0804		2			2						X	X	X			
11	MW-311	WT	G	xxx	xxx	8/14/18	0846		2			2						X	X	X			
12	~~FIELD BLANK~~	WT	G	xxx	xxx				2			2						X	X	X			

Requested Analysis Filtered (Y/N)

~~60277646~~
60277647

BP1U(2)

001
~~002~~
003
004
005
006

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Charles A Bills SCS	8/14/18	1200	PACE	8-15-18	0845	10.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Charles A Bills					
SIGNATURE of SAMPLER:	Charles A Bills	DATE Signed (MM/DD/YY): 8/14/18				

*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.

A3 Assessment Monitoring Semiannual, October 2018

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

November 05, 2018

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: BURLINGTON
Pace Project No.: 60283588

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on October 12, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Hank Kapka
hank.kapka@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Tom Karwaski, SCS Engineers
Nicole Kron, SCS Engineers
Jeff Maxted, Alliant Energy
Jess Valcheff, SCS Engeineers

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

CERTIFICATIONS

Project: BURLINGTON
Pace Project No.: 60283588

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Certification Number: 10090
Arkansas Drinking Water
WY STR Certification #: 2456.01
Arkansas Certification #: 18-016-0
Arkansas Drinking Water
Illinois Certification #: 004455
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212018-1
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-18-11
Utah Certification #: KS000212018-8
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070
Missouri Certification Number: 10090

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: BURLINGTON
Pace Project No.: 60283588

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60283588001	**MW-301**	Water	10/09/18 16:09	10/12/18 10:10
60283588002	**MW-302**	Water	10/09/18 16:26	10/12/18 10:10
60283588003	**MW-303**	Water	10/10/18 10:26	10/12/18 10:10
60283588004	**MW-304**	Water	10/10/18 10:42	10/12/18 10:10
60283588005	**MW-305**	Water	10/10/18 12:26	10/12/18 10:10
60283588006	**MW-306**	Water	10/10/18 12:05	10/12/18 10:10

Pace Analytical Services, LLC
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Lenexa, KS 66219
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SAMPLE ANALYTE COUNT

Project: BURLINGTON
Pace Project No.: 60283588

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60283588001	**MW-301**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283588002	**MW-302**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283588003	**MW-303**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283588004	**MW-304**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283588005	**MW-305**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283588006	**MW-306**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60283588

Sample: MW-301 **Lab ID: 60283588001** Collected: 10/09/18 16:09 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/09/18 16:09		
Collected Date	**10/09/2018**				1		10/09/18 16:09		
Collected Time	**16:09**				1		10/09/18 16:09		
Field pH	**7.34**	Std. Units	0.10	0.050	1		10/09/18 16:09		
Field Temperature	**17.2**	deg C	0.50	0.25	1		10/09/18 16:09		
Field Specific Conductance	**892**	umhos/cm	1.0	1.0	1		10/09/18 16:09		
Oxygen, Dissolved	**0.24**	mg/L			1		10/09/18 16:09	7782-44-7	
REDOX	**-63.5**	mV			1		10/09/18 16:09		
Turbidity	**8.43**	NTU	1.0	1.0	1		10/09/18 16:09		
Groundwater Elevation	**528.01**	feet			1		10/09/18 16:09		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**8040**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 17:50	7440-42-8	
Calcium	**103**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 17:50	7440-70-2	
Lithium	**24.5**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 17:50	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.080J**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 17:45	7440-36-0	
Arsenic	**37.7**	ug/L	1.0	0.065	1	10/31/18 10:45	11/01/18 17:45	7440-38-2	
Barium	**276**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 17:45	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 17:45	7440-41-7	
Cadmium	**<0.033**	ug/L	0.50	0.033	1	10/31/18 10:45	11/01/18 17:45	7440-43-9	
Chromium	**0.12J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 17:45	7440-47-3	
Cobalt	**0.10J**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 17:45	7440-48-4	
Lead	**<0.13**	ug/L	1.0	0.13	1	10/31/18 10:45	11/01/18 17:45	7439-92-1	
Molybdenum	**120**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 17:45	7439-98-7	
Selenium	**0.13J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/01/18 17:45	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 17:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:34	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**656**	mg/L	5.0	5.0	1		10/15/18 16:08		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		10/15/18 16:17		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.5**	mg/L	5.0	1.4	5		10/22/18 19:49	16887-00-6	
Fluoride	**0.26**	mg/L	0.20	0.19	1		10/22/18 19:33	16984-48-8	
Sulfate	**358**	mg/L	50.0	12.0	50		10/22/18 20:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60283588

Sample: MW-302 **Lab ID: 60283588002** Collected: 10/09/18 16:26 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/09/18 16:26		
Collected Date	**10/09/2018**				1		10/09/18 16:26		
Collected Time	**16:26**				1		10/09/18 16:26		
Field pH	**7.89**	Std. Units	0.10	0.050	1		10/09/18 16:26		
Field Temperature	**15.2**	deg C	0.50	0.25	1		10/09/18 16:26		
Field Specific Conductance	**1,334**	umhos/cm	1.0	1.0	1		10/09/18 16:26		
Oxygen, Dissolved	**0.30**	mg/L			1		10/09/18 16:26	7782-44-7	
REDOX	**-198**	mV			1		10/09/18 16:26		
Turbidity	**6.48**	NTU	1.0	1.0	1		10/09/18 16:26		
Groundwater Elevation	**528.08**	feet			1		10/09/18 16:26		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**10400**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 17:54	7440-42-8	
Calcium	**219**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 17:54	7440-70-2	
Lithium	**57.8**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 17:54	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.082J**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 17:47	7440-36-0	
Arsenic	**76.4**	ug/L	1.0	0.065	1	10/31/18 10:45	11/01/18 17:47	7440-38-2	
Barium	**180**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 17:47	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 17:47	7440-41-7	
Cadmium	**0.040J**	ug/L	0.50	0.033	1	10/31/18 10:45	11/01/18 17:47	7440-43-9	
Chromium	**0.097J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 17:47	7440-47-3	
Cobalt	**0.18J**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 17:47	7440-48-4	
Lead	**<0.13**	ug/L	1.0	0.13	1	10/31/18 10:45	11/01/18 17:47	7439-92-1	
Molybdenum	**122**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 17:47	7439-98-7	
Selenium	**0.23J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/01/18 17:47	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 17:47	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:36	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1030**	mg/L	5.0	5.0	1		10/15/18 16:08		
9040 pH	Analytical Method: EPA 9040								
pH	**7.7**	Std. Units	0.10	0.10	1		10/15/18 16:20		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**13.5**	mg/L	1.0	0.29	1		10/22/18 20:22	16887-00-6	
Fluoride	**<0.19**	mg/L	0.20	0.19	1		10/22/18 20:22	16984-48-8	
Sulfate	**658**	mg/L	50.0	12.0	50		10/22/18 20:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60283588

Sample: MW-303 **Lab ID: 60283588003** Collected: 10/10/18 10:26 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/10/18 10:26		
Collected Date	**10/10/2018**				1		10/10/18 10:26		
Collected Time	**10:26**				1		10/10/18 10:26		
Field pH	**7.10**	Std. Units	0.10	0.050	1		10/10/18 10:26		
Field Temperature	**15.6**	deg C	0.50	0.25	1		10/10/18 10:26		
Field Specific Conductance	**774**	umhos/cm	1.0	1.0	1		10/10/18 10:26		
Oxygen, Dissolved	**1.00**	mg/L			1		10/10/18 10:26	7782-44-7	
REDOX	**-132**	mV			1		10/10/18 10:26		
Turbidity	**17.3**	NTU	1.0	1.0	1		10/10/18 10:26		
Groundwater Elevation	**528.78**	feet			1		10/10/18 10:26		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**24500**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 17:56	7440-42-8	
Calcium	**87.8**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 17:56	7440-70-2	
Lithium	**35.8**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 17:56	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.078**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 17:49	7440-36-0	
Arsenic	**29.8**	ug/L	1.0	0.065	1	10/31/18 10:45	11/01/18 17:49	7440-38-2	
Barium	**415**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 17:49	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 17:49	7440-41-7	
Cadmium	**<0.033**	ug/L	0.50	0.033	1	10/31/18 10:45	11/01/18 17:49	7440-43-9	
Chromium	**0.69J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 17:49	7440-47-3	
Cobalt	**0.62J**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 17:49	7440-48-4	
Lead	**0.54J**	ug/L	1.0	0.13	1	10/31/18 10:45	11/01/18 17:49	7439-92-1	B
Molybdenum	**56.5**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 17:49	7439-98-7	
Selenium	**0.33J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/01/18 17:49	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 17:49	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:39	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**462**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		10/15/18 16:24		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**16.3**	mg/L	1.0	0.29	1		10/22/18 21:11	16887-00-6	
Fluoride	**0.27**	mg/L	0.20	0.19	1		10/22/18 21:11	16984-48-8	
Sulfate	**31.8**	mg/L	5.0	1.2	5		10/22/18 21:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60283588

Sample: MW-304 **Lab ID: 60283588004** Collected: 10/10/18 10:42 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/10/18 10:42		
Collected Date	**10/10/2018**				1		10/10/18 10:42		
Collected Time	**10:42**				1		10/10/18 10:42		
Field pH	**9.01**	Std. Units	0.10	0.050	1		10/10/18 10:42		
Field Temperature	**17.41**	deg C	0.50	0.25	1		10/10/18 10:42		
Field Specific Conductance	**780**	umhos/cm	1.0	1.0	1		10/10/18 10:42		
Oxygen, Dissolved	**0.23**	mg/L			1		10/10/18 10:42	7782-44-7	
REDOX	**-100.2**	mV			1		10/10/18 10:42		
Turbidity	**1.36**	NTU	1.0	1.0	1		10/10/18 10:42		
Groundwater Elevation	**528.82**	feet			1		10/10/18 10:42		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**6180**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 17:58	7440-42-8	
Calcium	**88.5**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 17:58	7440-70-2	
Lithium	**82.4**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 17:58	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.77J**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 17:52	7440-36-0	
Arsenic	**58.3**	ug/L	1.0	0.065	1	10/31/18 10:45	11/01/18 17:52	7440-38-2	
Barium	**92.0**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 17:52	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 17:52	7440-41-7	
Cadmium	**0.054J**	ug/L	0.50	0.033	1	10/31/18 10:45	11/01/18 17:52	7440-43-9	
Chromium	**0.091J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 17:52	7440-47-3	
Cobalt	**0.19J**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 17:52	7440-48-4	
Lead	**<0.13**	ug/L	1.0	0.13	1	10/31/18 10:45	11/01/18 17:52	7439-92-1	
Molybdenum	**113**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 17:52	7439-98-7	
Selenium	**0.26J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/01/18 17:52	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 17:52	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:41	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**537**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**8.6**	Std. Units	0.10	0.10	1		10/15/18 16:25		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**50.3**	mg/L	10.0	2.9	10		10/22/18 22:50	16887-00-6	
Fluoride	**<0.19**	mg/L	0.20	0.19	1		10/22/18 22:33	16984-48-8	
Sulfate	**271**	mg/L	50.0	12.0	50		10/22/18 23:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60283588

Sample: MW-305 **Lab ID: 60283588005** Collected: 10/10/18 12:26 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/10/18 12:26		
Collected Date	**10/10/2018**				1		10/10/18 12:26		
Collected Time	**12:26**				1		10/10/18 12:26		
Field pH	**7.29**	Std. Units	0.10	0.050	1		10/10/18 12:26		
Field Temperature	**16.2**	deg C	0.50	0.25	1		10/10/18 12:26		
Field Specific Conductance	**846**	umhos/cm	1.0	1.0	1		10/10/18 12:26		
Oxygen, Dissolved	**0.20**	mg/L			1		10/10/18 12:26	7782-44-7	
REDOX	**-140**	mV			1		10/10/18 12:26		
Turbidity	**4.94**	NTU	1.0	1.0	1		10/10/18 12:26		
Groundwater Elevation	**528.97**	feet			1		10/10/18 12:26		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2040**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 18:00	7440-42-8	
Calcium	**93.2**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 18:00	7440-70-2	
Lithium	**27.6**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 18:00	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.078**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 17:58	7440-36-0	
Arsenic	**0.44J**	ug/L	1.0	0.065	1	10/31/18 10:45	11/01/18 17:58	7440-38-2	
Barium	**197**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 17:58	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 17:58	7440-41-7	
Cadmium	**<0.033**	ug/L	0.50	0.033	1	10/31/18 10:45	11/01/18 17:58	7440-43-9	
Chromium	**0.27J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 17:58	7440-47-3	
Cobalt	**0.17J**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 17:58	7440-48-4	
Lead	**0.20J**	ug/L	1.0	0.13	1	10/31/18 10:45	11/01/18 17:58	7439-92-1	B
Molybdenum	**0.72J**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 17:58	7439-98-7	
Selenium	**0.16J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/01/18 17:58	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 17:58	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**490**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**7.3**	Std. Units	0.10	0.10	1		10/15/18 16:28		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**34.9**	mg/L	10.0	2.9	10		10/22/18 23:39	16887-00-6	
Fluoride	**0.44**	mg/L	0.20	0.19	1		10/22/18 23:22	16984-48-8	
Sulfate	**19.6**	mg/L	1.0	0.24	1		10/22/18 23:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BURLINGTON
Pace Project No.: 60283588

Sample: MW-306 **Lab ID: 60283588006** Collected: 10/10/18 12:05 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/10/16 12:05		
Collected Date	**10/10/2018**				1		10/10/16 12:05		
Collected Time	**12:05**				1		10/10/16 12:05		
Field pH	**6.04**	Std. Units	0.10	0.050	1		10/10/16 12:05		
Field Temperature	**17.25**	deg C	0.50	0.25	1		10/10/16 12:05		
Field Specific Conductance	**478**	umhos/cm	1.0	1.0	1		10/10/16 12:05		
Oxygen, Dissolved	**0.38**	mg/L			1		10/10/16 12:05	7782-44-7	
REDOX	**58.1**	mV			1		10/10/16 12:05		
Turbidity	**2.67**	NTU	1.0	1.0	1		10/10/16 12:05		
Groundwater Elevation	**528.95**	feet			1		10/10/16 12:05		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3350**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 18:02	7440-42-8	
Calcium	**34.6**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 18:02	7440-70-2	
Lithium	**41.4**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 18:02	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**1.2**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 18:00	7440-36-0	
Arsenic	**50.6**	ug/L	1.0	0.065	1	10/31/18 10:45	11/01/18 18:00	7440-38-2	
Barium	**14.8**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 18:00	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 18:00	7440-41-7	
Cadmium	**<0.033**	ug/L	0.50	0.033	1	10/31/18 10:45	11/01/18 18:00	7440-43-9	
Chromium	**0.18J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 18:00	7440-47-3	
Cobalt	**<0.062**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 18:00	7440-48-4	
Lead	**0.37J**	ug/L	1.0	0.13	1	10/31/18 10:45	11/01/18 18:00	7439-92-1	B
Molybdenum	**83.5**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 18:00	7439-98-7	
Selenium	**0.60J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/01/18 18:00	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 18:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:46	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**289**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**6.0**	Std. Units	0.10	0.10	1		10/15/18 16:27		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**20.9**	mg/L	10.0	2.9	10		10/23/18 00:28	16887-00-6	
Fluoride	**<0.19**	mg/L	0.20	0.19	1		10/23/18 00:12	16984-48-8	
Sulfate	**121**	mg/L	10.0	2.4	10		10/23/18 00:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60283588

QC Batch: 551414 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60283588001, 60283588002, 60283588003, 60283588004, 60283588005, 60283588006

METHOD BLANK: 2261403 Matrix: Water
Associated Lab Samples: 60283588001, 60283588002, 60283588003, 60283588004, 60283588005, 60283588006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.090	0.20	0.090	10/26/18 10:02	

LABORATORY CONTROL SAMPLE: 2261404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2261405 2261406

Parameter	Units	60283561001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.090	5	5	5.0	4.8	99	96	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60283588

QC Batch: 550250 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60283588001, 60283588002, 60283588003, 60283588004, 60283588005, 60283588006

METHOD BLANK: 2256286 Matrix: Water
Associated Lab Samples: 60283588001, 60283588002, 60283588003, 60283588004, 60283588005, 60283588006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<12.5	100	12.5	10/19/18 17:46	
Calcium	mg/L	<0.054	0.20	0.054	10/19/18 17:46	
Lithium	ug/L	<4.6	10.0	4.6	10/19/18 17:46	

LABORATORY CONTROL SAMPLE: 2256287

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	929	93	80-120	
Calcium	mg/L	10	9.6	96	80-120	
Lithium	ug/L	1000	914	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2256288 2256289

Parameter	Units	60283634004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	694	1000	1000	1620	1620	92	93	75-125	0	20	
Calcium	mg/L	414000 ug/L	10	10	418	413	35	-13	75-125	1	20	M1
Lithium	ug/L	354	1000	1000	1360	1350	101	100	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60283588

QC Batch: 552583 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60283588001, 60283588002, 60283588003, 60283588004, 60283588005, 60283588006

METHOD BLANK: 2266145 Matrix: Water
Associated Lab Samples: 60283588001, 60283588002, 60283588003, 60283588004, 60283588005, 60283588006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.078	1.0	0.078	11/01/18 17:41	
Arsenic	ug/L	<0.065	1.0	0.065	11/01/18 17:41	
Barium	ug/L	<0.28	1.0	0.28	11/01/18 17:41	
Beryllium	ug/L	<0.089	0.50	0.089	11/01/18 17:41	
Cadmium	ug/L	<0.033	0.50	0.033	11/01/18 17:41	
Chromium	ug/L	<0.079	1.0	0.079	11/01/18 17:41	
Cobalt	ug/L	<0.062	1.0	0.062	11/01/18 17:41	
Lead	ug/L	0.76J	1.0	0.13	11/01/18 17:41	
Molybdenum	ug/L	<0.57	1.0	0.57	11/01/18 17:41	
Selenium	ug/L	<0.085	1.0	0.085	11/01/18 17:41	
Thallium	ug/L	<0.099	1.0	0.099	11/01/18 17:41	

LABORATORY CONTROL SAMPLE: 2266146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.5	99	80-120	
Arsenic	ug/L	40	39.9	100	80-120	
Barium	ug/L	40	39.1	98	80-120	
Beryllium	ug/L	40	39.4	99	80-120	
Cadmium	ug/L	40	39.5	99	80-120	
Chromium	ug/L	40	39.6	99	80-120	
Cobalt	ug/L	40	38.1	95	80-120	
Lead	ug/L	40	39.5	99	80-120	
Molybdenum	ug/L	40	39.3	98	80-120	
Selenium	ug/L	40	39.6	99	80-120	
Thallium	ug/L	40	37.8	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2266147 2266148

Parameter	Units	60283588004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.77J	40	40	39.7	40.1	97	98	75-125	1	20	
Arsenic	ug/L	58.3	40	40	97.1	100	97	104	75-125	3	20	
Barium	ug/L	92.0	40	40	127	129	87	91	75-125	1	20	
Beryllium	ug/L	<0.089	40	40	35.9	36.5	90	91	75-125	2	20	
Cadmium	ug/L	0.054J	40	40	37.2	38.0	93	95	75-125	2	20	
Chromium	ug/L	0.091J	40	40	37.7	38.4	94	96	75-125	2	20	
Cobalt	ug/L	0.19J	40	40	37.4	38.0	93	95	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60283588

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2266147 2266148

Parameter	Units	60283588004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	<0.13	40	40	35.5	35.9	89	90	75-125	1	20	
Molybdenum	ug/L	113	40	40	156	159	108	116	75-125	2	20	
Selenium	ug/L	0.26J	40	40	37.9	38.5	94	96	75-125	1	20	
Thallium	ug/L	<0.099	40	40	34.9	35.3	87	88	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60283588

QC Batch: 549610 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60283588001, 60283588002

METHOD BLANK: 2253887 Matrix: Water
Associated Lab Samples: 60283588001, 60283588002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/15/18 16:08	

LABORATORY CONTROL SAMPLE: 2253888

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1010	101	80-120	

SAMPLE DUPLICATE: 2253889

Parameter	Units	60283556004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	918	919	0	10	

SAMPLE DUPLICATE: 2253890

Parameter	Units	60283561003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	515	507	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60283588

QC Batch: 549785 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60283588003, 60283588004, 60283588005, 60283588006

METHOD BLANK: 2254439 Matrix: Water
Associated Lab Samples: 60283588003, 60283588004, 60283588005, 60283588006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/16/18 11:39	

LABORATORY CONTROL SAMPLE: 2254440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1010	101	80-120	

SAMPLE DUPLICATE: 2254441

Parameter	Units	60283552004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	585	613	5	10	

SAMPLE DUPLICATE: 2254442

Parameter	Units	60283588003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	462	484	5	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60283588

QC Batch: 549506 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60283588001, 60283588002, 60283588003, 60283588004, 60283588005, 60283588006

SAMPLE DUPLICATE: 2253360

Parameter	Units	60283588001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.0	7.0	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, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BURLINGTON
Pace Project No.: 60283588

QC Batch: 550860 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60283588001, 60283588002, 60283588003, 60283588004, 60283588005, 60283588006

METHOD BLANK: 2258997 Matrix: Water
Associated Lab Samples: 60283588001, 60283588002, 60283588003, 60283588004, 60283588005, 60283588006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.29	1.0	0.29	10/22/18 11:37	
Fluoride	mg/L	<0.19	0.20	0.19	10/22/18 11:37	
Sulfate	mg/L	<0.24	1.0	0.24	10/22/18 11:37	

LABORATORY CONTROL SAMPLE: 2258998

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	2.7	106	80-120	
Sulfate	mg/L	5	4.8	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2258999 2259000

Parameter	Units	60283561007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.31J	5	5	6.5	6.7	124	127	80-120	2	15	M1
Fluoride	mg/L	<0.19	2.5	2.5	3.6	3.7	145	149	80-120	3	15	M1
Sulfate	mg/L	<0.24	5	5	6.9	6.9	139	139	80-120	0	15	M1

SAMPLE DUPLICATE: 2259001

Parameter	Units	60283589006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	<0.29	<0.29		15	
Fluoride	mg/L	<0.19	<0.19		15	
Sulfate	mg/L	<0.24	<0.24		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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QUALIFIERS

Project: BURLINGTON
Pace Project No.: 60283588

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-K	Pace Analytical Services - Kansas City

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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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURLINGTON
Pace Project No.: 60283588

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60283588001	**MW-301**		551323		
60283588002	**MW-302**		551323		
60283588003	**MW-303**		551323		
60283588004	**MW-304**		551323		
60283588005	**MW-305**		551323		
60283588006	**MW-306**		551323		
60283588001	**MW-301**	EPA 3010	550250	EPA 6010	550502
60283588002	**MW-302**	EPA 3010	550250	EPA 6010	550502
60283588003	**MW-303**	EPA 3010	550250	EPA 6010	550502
60283588004	**MW-304**	EPA 3010	550250	EPA 6010	550502
60283588005	**MW-305**	EPA 3010	550250	EPA 6010	550502
60283588006	**MW-306**	EPA 3010	550250	EPA 6010	550502
60283588001	**MW-301**	EPA 3010	552583	EPA 6020	552695
60283588002	**MW-302**	EPA 3010	552583	EPA 6020	552695
60283588003	**MW-303**	EPA 3010	552583	EPA 6020	552695
60283588004	**MW-304**	EPA 3010	552583	EPA 6020	552695
60283588005	**MW-305**	EPA 3010	552583	EPA 6020	552695
60283588006	**MW-306**	EPA 3010	552583	EPA 6020	552695
60283588001	**MW-301**	EPA 7470	551414	EPA 7470	551476
60283588002	**MW-302**	EPA 7470	551414	EPA 7470	551476
60283588003	**MW-303**	EPA 7470	551414	EPA 7470	551476
60283588004	**MW-304**	EPA 7470	551414	EPA 7470	551476
60283588005	**MW-305**	EPA 7470	551414	EPA 7470	551476
60283588006	**MW-306**	EPA 7470	551414	EPA 7470	551476
60283588001	**MW-301**	SM 2540C	549610		
60283588002	**MW-302**	SM 2540C	549610		
60283588003	**MW-303**	SM 2540C	549785		
60283588004	**MW-304**	SM 2540C	549785		
60283588005	**MW-305**	SM 2540C	549785		
60283588006	**MW-306**	SM 2540C	549785		
60283588001	**MW-301**	EPA 9040	549506		
60283588002	**MW-302**	EPA 9040	549506		
60283588003	**MW-303**	EPA 9040	549506		
60283588004	**MW-304**	EPA 9040	549506		
60283588005	**MW-305**	EPA 9040	549506		
60283588006	**MW-306**	EPA 9040	549506		
60283588001	**MW-301**	EPA 9056	550860		
60283588002	**MW-302**	EPA 9056	550860		
60283588003	**MW-303**	EPA 9056	550860		
60283588004	**MW-304**	EPA 9056	550860		
60283588005	**MW-305**	EPA 9056	550860		
60283588006	**MW-306**	EPA 9056	550860		

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Sample Condition Upon Receipt

WO# : 60283588

60283588

Client Name: SCS Eng

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

Tracking #: 4542 2783 3051 Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☑ Other ☐

Thermometer Used: T-298 **Type of Ice:** ~~Wet~~ Blue None

Cooler Temperature (°C): **As-read** 3-4 **Corr. Factor** 0.0 **Corrected** 3'4

Date and initials of person examining contents: 10/13/18

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐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	

HWK

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Hank

Project Manager Review: 09:43 am,Oct 15,2018 Date: _____

Kapka

F-KS-C-003-Rev.11, February 28, 2018

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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:	25216066.18

Section C Invoice Information:

Attention:	Meghan Blodgett/Jess Valcheff
Company Name:	SCS Engineers
Address:	
Pace Quote Reference:	
Pace Project Manager:	Trudy Gipson 913-563-1405
Pace Profile #:	6696 Line 2

REGULATORY AGENCY

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

Site Location STATE: IA

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	6010 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. 60283588
																		N	N	N						
1	MW-301	WT	G	xxx	xxx	10/9/18	1609	17.2	3	1		2							X	X	X	X	X	X		LBP3N BP2U 001
2	MW-302	WT	G	xxx	xxx	10/9/18	1626	15.2	3	1		2							X	X	X	X	X	X		002
3	MW-303	WT	G	xxx	xxx	10/10/18	1026	15.6	3	1		2							X	X	X	X	X	X		003
4	MW-304	WT	G	xxx	xxx	10/10/18	1042	17.4	3	1		2							X	X	X	X	X	X		004
5	MW-305	WT	G	xxx	xxx	10/10/18	1226	16.2	3	1		2							X	X	X	X	X	X		005
6	MW-306	WT	G	xxx	xxx	10/10/18	1205	17.7	3	1		2							X	X	X	X	X	X		006
7	[redacted]																									
8	[redacted]																									
9	[redacted]																									
10	[redacted]																									
11	[redacted]																									
12	[redacted]																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Gary Stukel	10/11/18	1700		10/12	1610	3.4	X	X	Y
* Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Gary Stukel
SIGNATURE of SAMPLER: Gary Stukel
DATE Signed (MM/DD/YY): 10/11/18

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

November 05, 2018

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on October 12, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Hank Kapka
hank.kapka@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Tom Karwaski, SCS Engineers
Nicole Kron, SCS Engineers
Jeff Maxted, Alliant Energy
Jess Valcheff, SCS Engeineers

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CERTIFICATIONS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Certification Number: 10090
Arkansas Drinking Water
WY STR Certification #: 2456.01
Arkansas Certification #: 18-016-0
Arkansas Drinking Water
Illinois Certification #: 004455
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212018-1
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-18-11
Utah Certification #: KS000212018-8
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070
Missouri Certification Number: 10090

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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SAMPLE SUMMARY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60283589001	**MW-307**	Water	10/10/18 12:52	10/12/18 10:10
60283589002	**MW-308**	Water	10/10/18 14:01	10/12/18 10:10
60283589003	**MW-309**	Water	10/10/18 13:43	10/12/18 10:10
60283589004	**MW-310**	Water	10/10/18 08:56	10/12/18 10:10
60283589005	**MW-311**	Water	10/10/18 09:29	10/12/18 10:10
60283589006	**FIELD BLANK**	Water	10/10/18 13:45	10/12/18 10:10

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SAMPLE ANALYTE COUNT

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60283589001	**MW-307**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283589002	**MW-308**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283589003	**MW-309**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283589004	**MW-310**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283589005	**MW-311**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K
60283589006	**FIELD BLANK**	EPA 6010	EMR	3	PASI-K
		EPA 6020	JGP	11	PASI-K
		EPA 7470	CTR	1	PASI-K
		SM 2540C	JDA	1	PASI-K
		EPA 9040	ZMH	1	PASI-K
		EPA 9056	WNM	3	PASI-K

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ANALYTICAL RESULTS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Sample: MW-307 **Lab ID: 60283589001** Collected: 10/10/18 12:52 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/10/18 12:52		
Collected Date	**10/10/2018**				1		10/10/18 12:52		
Collected Time	**12:52**				1		10/10/18 12:52		
Field pH	**9.88**	Std. Units	0.10	0.050	1		10/10/18 12:52		
Field Temperature	**15.64**	deg C	0.50	0.25	1		10/10/18 12:52		
Field Specific Conductance	**497**	umhos/cm	1.0	1.0	1		10/10/18 12:52		
Oxygen, Dissolved	**0.22**	mg/L			1		10/10/18 12:52	7782-44-7	
REDOX	**-87.3**	mV			1		10/10/18 12:52		
Turbidity	**1.85**	NTU	1.0	1.0	1		10/10/18 12:52		
Groundwater Elevation	**529.08**	feet			1		10/10/18 12:52		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**3720**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 18:09	7440-42-8	
Calcium	**27.6**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 18:09	7440-70-2	
Lithium	**45.4**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 18:09	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.62J**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 18:06	7440-36-0	
Arsenic	**52.8**	ug/L	1.0	0.065	1	10/31/18 10:45	11/04/18 16:15	7440-38-2	
Barium	**31.1**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 18:06	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 18:06	7440-41-7	
Cadmium	**0.068J**	ug/L	0.50	0.033	1	10/31/18 10:45	11/04/18 16:15	7440-43-9	
Chromium	**0.15J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 18:06	7440-47-3	
Cobalt	**<0.062**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 18:06	7440-48-4	
Lead	**0.49J**	ug/L	1.0	0.13	1	10/31/18 10:45	11/04/18 16:15	7439-92-1	B
Molybdenum	**159**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 18:06	7439-98-7	
Selenium	**0.36J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/04/18 16:15	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 18:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**336**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**9.9**	Std. Units	0.10	0.10	1		10/15/18 16:31		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**21.6**	mg/L	10.0	2.9	10		10/23/18 01:50	16887-00-6	
Fluoride	**<0.19**	mg/L	0.20	0.19	1		10/23/18 01:34	16984-48-8	
Sulfate	**143**	mg/L	10.0	2.4	10		10/23/18 01:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Sample: MW-308 **Lab ID: 60283589002** Collected: 10/10/18 14:01 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/10/18 14:01		
Collected Date	**10/10/2018**				1		10/10/18 14:01		
Collected Time	**14:01**				1		10/10/18 14:01		
Field pH	**9.82**	Std. Units	0.10	0.050	1		10/10/18 14:01		
Field Temperature	**15.3**	deg C	0.50	0.25	1		10/10/18 14:01		
Field Specific Conductance	**709**	umhos/cm	1.0	1.0	1		10/10/18 14:01		
Oxygen, Dissolved	**0.20**	mg/L			1		10/10/18 14:01	7782-44-7	
REDOX	**-201**	mV			1		10/10/18 14:01		
Turbidity	**1.35**	NTU	1.0	1.0	1		10/10/18 14:01		
Groundwater Elevation	**528.98**	feet			1		10/10/18 14:01		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4710**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 18:11	7440-42-8	
Calcium	**28.5**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 18:11	7440-70-2	
Lithium	**43.6**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 18:11	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**0.36J**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 18:08	7440-36-0	
Arsenic	**79.5**	ug/L	1.0	0.065	1	10/31/18 10:45	11/04/18 16:18	7440-38-2	
Barium	**66.5**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 18:08	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 18:08	7440-41-7	
Cadmium	**0.058J**	ug/L	0.50	0.033	1	10/31/18 10:45	11/04/18 16:18	7440-43-9	
Chromium	**0.16J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 18:08	7440-47-3	
Cobalt	**0.074J**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 18:08	7440-48-4	
Lead	**0.45J**	ug/L	1.0	0.13	1	10/31/18 10:45	11/04/18 16:18	7439-92-1	B
Molybdenum	**145**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 18:08	7439-98-7	
Selenium	**0.40J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/04/18 16:18	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 18:08	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**440**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**9.5**	Std. Units	0.10	0.10	1		10/15/18 16:36		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**35.9**	mg/L	10.0	2.9	10		10/23/18 02:23	16887-00-6	
Fluoride	**<0.19**	mg/L	0.20	0.19	1		10/23/18 02:06	16984-48-8	
Sulfate	**193**	mg/L	10.0	2.4	10		10/23/18 02:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Sample: MW-309 **Lab ID: 60283589003** Collected: 10/10/18 13:43 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/10/18 13:43		
Collected Date	**10/10/2018**				1		10/10/18 13:43		
Collected Time	**13:43**				1		10/10/18 13:43		
Field pH	**7.46**	Std. Units	0.10	0.050	1		10/10/18 13:43		
Field Temperature	**15.67**	deg C	0.50	0.25	1		10/10/18 13:43		
Field Specific Conductance	**1,038**	umhos/cm	1.0	1.0	1		10/10/18 13:43		
Oxygen, Dissolved	**0.18**	mg/L			1		10/10/18 13:43	7782-44-7	
REDOX	**-53.5**	mV			1		10/10/18 13:43		
Turbidity	**34.45**	NTU	1.0	1.0	1		10/10/18 13:43		
Groundwater Elevation	**528.93**	feet			1		10/10/18 13:43		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**4720**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 18:14	7440-42-8	
Calcium	**72.4**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 18:14	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 18:14	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.078**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 18:10	7440-36-0	
Arsenic	**35.6**	ug/L	1.0	0.065	1	10/31/18 10:45	11/04/18 16:20	7440-38-2	
Barium	**194**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 18:10	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 18:10	7440-41-7	
Cadmium	**<0.033**	ug/L	0.50	0.033	1	10/31/18 10:45	11/04/18 16:20	7440-43-9	
Chromium	**0.18J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 18:10	7440-47-3	
Cobalt	**0.68J**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 18:10	7440-48-4	
Lead	**<0.13**	ug/L	1.0	0.13	1	10/31/18 10:45	11/04/18 16:20	7439-92-1	
Molybdenum	**71.8**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 18:10	7439-98-7	
Selenium	**0.29J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/04/18 16:20	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 18:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:57	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**650**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		10/15/18 16:32		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**105**	mg/L	10.0	2.9	10		10/23/18 03:12	16887-00-6	
Fluoride	**0.40**	mg/L	0.20	0.19	1		10/23/18 02:56	16984-48-8	
Sulfate	**111**	mg/L	10.0	2.4	10		10/23/18 03:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Sample: MW-310 **Lab ID: 60283589004** Collected: 10/10/18 08:56 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/10/18 08:56		
Collected Date	**10/10/2018**				1		10/10/18 08:56		
Collected Time	**08:56**				1		10/10/18 08:56		
Field pH	**7.20**	Std. Units	0.10	0.050	1		10/10/18 08:56		
Field Temperature	**17.0**	deg C	0.50	0.25	1		10/10/18 08:56		
Field Specific Conductance	**938**	umhos/cm	1.0	1.0	1		10/10/18 08:56		
Oxygen, Dissolved	**0.10**	mg/L			1		10/10/18 08:56	7782-44-7	
REDOX	**-166**	mV			1		10/10/18 08:56		
Turbidity	**NM**	NTU	1.0	1.0	1		10/10/18 08:56		
Groundwater Elevation	**529.00**	feet			1		10/10/18 08:56		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**268**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 18:16	7440-42-8	
Calcium	**107**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 18:16	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 18:16	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.078**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 18:12	7440-36-0	
Arsenic	**62.1**	ug/L	1.0	0.065	1	10/31/18 10:45	11/04/18 16:22	7440-38-2	
Barium	**450**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 18:12	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 18:12	7440-41-7	
Cadmium	**<0.033**	ug/L	0.50	0.033	1	10/31/18 10:45	11/04/18 16:22	7440-43-9	
Chromium	**0.082J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 18:12	7440-47-3	
Cobalt	**1.4**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 18:12	7440-48-4	
Lead	**<0.13**	ug/L	1.0	0.13	1	10/31/18 10:45	11/04/18 16:22	7439-92-1	
Molybdenum	**4.6**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 18:12	7439-98-7	
Selenium	**0.19J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/04/18 16:22	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 18:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 10:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**512**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		10/15/18 16:21		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**67.1**	mg/L	10.0	2.9	10		10/23/18 04:01	16887-00-6	
Fluoride	**0.40**	mg/L	0.20	0.19	1		10/23/18 03:45	16984-48-8	
Sulfate	**37.9**	mg/L	10.0	2.4	10		10/23/18 04:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Sample: MW-311 **Lab ID: 60283589005** Collected: 10/10/18 09:29 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Collected By	**Client**				1		10/10/18 09:29		
Collected Date	**10/10/2018**				1		10/10/18 09:29		
Collected Time	**09:29**				1		10/10/18 09:29		
Field pH	**7.49**	Std. Units	0.10	0.050	1		10/10/18 09:29		
Field Temperature	**16.35**	deg C	0.50	0.25	1		10/10/18 09:29		
Field Specific Conductance	**1,003**	umhos/cm	1.0	1.0	1		10/10/18 09:29		
Oxygen, Dissolved	**0.45**	mg/L			1		10/10/18 09:29	7782-44-7	
REDOX	**-62.2**	mV			1		10/10/18 09:29		
Turbidity	**17.80**	NTU	1.0	1.0	1		10/10/18 09:29		
Groundwater Elevation	**528.49**	feet			1		10/10/18 09:29		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**2820**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 18:18	7440-42-8	
Calcium	**130**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 18:18	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 18:18	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.078**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 18:14	7440-36-0	
Arsenic	**15.2**	ug/L	1.0	0.065	1	10/31/18 10:45	11/04/18 16:24	7440-38-2	
Barium	**214**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 18:14	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 18:14	7440-41-7	
Cadmium	**<0.033**	ug/L	0.50	0.033	1	10/31/18 10:45	11/04/18 16:24	7440-43-9	
Chromium	**0.78J**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 18:14	7440-47-3	
Cobalt	**0.57J**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 18:14	7440-48-4	
Lead	**0.48J**	ug/L	1.0	0.13	1	10/31/18 10:45	11/04/18 16:24	7439-92-1	B
Molybdenum	**16.3**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 18:14	7439-98-7	
Selenium	**0.23J**	ug/L	1.0	0.085	1	10/31/18 10:45	11/04/18 16:24	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 18:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 11:02	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**678**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		10/15/18 16:23		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**54.0**	mg/L	10.0	2.9	10		10/23/18 05:07	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.19	1		10/23/18 04:50	16984-48-8	
Sulfate	**127**	mg/L	10.0	2.4	10		10/23/18 05:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Sample: FIELD BLANK **Lab ID: 60283589006** Collected: 10/10/18 13:45 Received: 10/12/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Boron	**13.6J**	ug/L	100	12.5	1	10/18/18 16:30	10/19/18 18:20	7440-42-8	
Calcium	**<0.054**	mg/L	0.20	0.054	1	10/18/18 16:30	10/19/18 18:20	7440-70-2	
Lithium	**<4.6**	ug/L	10.0	4.6	1	10/18/18 16:30	10/19/18 18:20	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3010								
Antimony	**<0.078**	ug/L	1.0	0.078	1	10/31/18 10:45	11/01/18 18:16	7440-36-0	
Arsenic	**0.074J**	ug/L	1.0	0.065	1	10/31/18 10:45	11/04/18 16:13	7440-38-2	
Barium	**<0.28**	ug/L	1.0	0.28	1	10/31/18 10:45	11/01/18 18:16	7440-39-3	
Beryllium	**<0.089**	ug/L	0.50	0.089	1	10/31/18 10:45	11/01/18 18:16	7440-41-7	
Cadmium	**0.042J**	ug/L	0.50	0.033	1	10/31/18 10:45	11/04/18 16:13	7440-43-9	
Chromium	**<0.079**	ug/L	1.0	0.079	1	10/31/18 10:45	11/01/18 18:16	7440-47-3	
Cobalt	**<0.062**	ug/L	1.0	0.062	1	10/31/18 10:45	11/01/18 18:16	7440-48-4	
Lead	**<0.13**	ug/L	1.0	0.13	1	10/31/18 10:45	11/04/18 16:13	7439-92-1	
Molybdenum	**<0.57**	ug/L	1.0	0.57	1	10/31/18 10:45	11/01/18 18:16	7439-98-7	
Selenium	**<0.085**	ug/L	1.0	0.085	1	10/31/18 10:45	11/04/18 16:13	7782-49-2	
Thallium	**<0.099**	ug/L	1.0	0.099	1	10/31/18 10:45	11/01/18 18:16	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.090**	ug/L	0.20	0.090	1	10/24/18 06:40	10/26/18 11:04	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**17.0**	mg/L	5.0	5.0	1		10/16/18 11:39		
9040 pH	Analytical Method: EPA 9040								
pH	**6.4**	Std. Units	0.10	0.10	1		10/15/18 16:35		H6
9056 IC Anions	Analytical Method: EPA 9056								
Chloride	**<0.29**	mg/L	1.0	0.29	1		10/23/18 05:40	16887-00-6	
Fluoride	**<0.19**	mg/L	0.20	0.19	1		10/23/18 05:40	16984-48-8	
Sulfate	**<0.24**	mg/L	1.0	0.24	1		10/23/18 05:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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QUALITY CONTROL DATA

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

QC Batch: 551414 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

METHOD BLANK: 2261403 Matrix: Water
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.090	0.20	0.090	10/26/18 10:02	

LABORATORY CONTROL SAMPLE: 2261404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2261405 2261406

Parameter	Units	60283561001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.090	5	5	5.0	4.8	99	96	75-125	4	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

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

QC Batch: 550250 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

METHOD BLANK: 2256286 Matrix: Water
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<12.5	100	12.5	10/19/18 17:46	
Calcium	mg/L	<0.054	0.20	0.054	10/19/18 17:46	
Lithium	ug/L	<4.6	10.0	4.6	10/19/18 17:46	

LABORATORY CONTROL SAMPLE: 2256287

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	929	93	80-120	
Calcium	mg/L	10	9.6	96	80-120	
Lithium	ug/L	1000	914	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2256288 2256289

Parameter	Units	60283634004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	694	1000	1000	1620	1620	92	93	75-125	0	20	
Calcium	mg/L	414000 ug/L	10	10	418	413	35	-13	75-125	1	20	M1
Lithium	ug/L	354	1000	1000	1360	1350	101	100	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

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

QUALITY CONTROL DATA

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

QC Batch: 552583 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

METHOD BLANK: 2266145 Matrix: Water
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.078	1.0	0.078	11/01/18 17:41	
Arsenic	ug/L	<0.065	1.0	0.065	11/01/18 17:41	
Barium	ug/L	<0.28	1.0	0.28	11/01/18 17:41	
Beryllium	ug/L	<0.089	0.50	0.089	11/01/18 17:41	
Cadmium	ug/L	<0.033	0.50	0.033	11/01/18 17:41	
Chromium	ug/L	<0.079	1.0	0.079	11/01/18 17:41	
Cobalt	ug/L	<0.062	1.0	0.062	11/01/18 17:41	
Lead	ug/L	0.76J	1.0	0.13	11/01/18 17:41	
Molybdenum	ug/L	<0.57	1.0	0.57	11/01/18 17:41	
Selenium	ug/L	<0.085	1.0	0.085	11/01/18 17:41	
Thallium	ug/L	<0.099	1.0	0.099	11/01/18 17:41	

LABORATORY CONTROL SAMPLE: 2266146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.5	99	80-120	
Arsenic	ug/L	40	39.9	100	80-120	
Barium	ug/L	40	39.1	98	80-120	
Beryllium	ug/L	40	39.4	99	80-120	
Cadmium	ug/L	40	39.5	99	80-120	
Chromium	ug/L	40	39.6	99	80-120	
Cobalt	ug/L	40	38.1	95	80-120	
Lead	ug/L	40	39.5	99	80-120	
Molybdenum	ug/L	40	39.3	98	80-120	
Selenium	ug/L	40	39.6	99	80-120	
Thallium	ug/L	40	37.8	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2266147 2266148

Parameter	Units	60283588004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.77J	40	40	39.7	40.1	97	98	75-125	1	20	
Arsenic	ug/L	58.3	40	40	97.1	100	97	104	75-125	3	20	
Barium	ug/L	92.0	40	40	127	129	87	91	75-125	1	20	
Beryllium	ug/L	<0.089	40	40	35.9	36.5	90	91	75-125	2	20	
Cadmium	ug/L	0.054J	40	40	37.2	38.0	93	95	75-125	2	20	
Chromium	ug/L	0.091J	40	40	37.7	38.4	94	96	75-125	2	20	
Cobalt	ug/L	0.19J	40	40	37.4	38.0	93	95	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2266147 2266148

Parameter	Units	60283588004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	<0.13	40	40	35.5	35.9	89	90	75-125	1	20	
Molybdenum	ug/L	113	40	40	156	159	108	116	75-125	2	20	
Selenium	ug/L	0.26J	40	40	37.9	38.5	94	96	75-125	1	20	
Thallium	ug/L	<0.099	40	40	34.9	35.3	87	88	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

QC Batch: 549785 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

METHOD BLANK: 2254439 Matrix: Water
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/16/18 11:39	

LABORATORY CONTROL SAMPLE: 2254440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1010	101	80-120	

SAMPLE DUPLICATE: 2254441

Parameter	Units	60283552004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	585	613	5	10	

SAMPLE DUPLICATE: 2254442

Parameter	Units	60283588003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	462	484	5	10	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

QC Batch: 549506 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

SAMPLE DUPLICATE: 2253360

Parameter	Units	60283588001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.0	7.0	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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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

QC Batch: 550860 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

METHOD BLANK: 2258997 Matrix: Water
Associated Lab Samples: 60283589001, 60283589002, 60283589003, 60283589004, 60283589005, 60283589006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.29	1.0	0.29	10/22/18 11:37	
Fluoride	mg/L	<0.19	0.20	0.19	10/22/18 11:37	
Sulfate	mg/L	<0.24	1.0	0.24	10/22/18 11:37	

LABORATORY CONTROL SAMPLE: 2258998

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	2.7	106	80-120	
Sulfate	mg/L	5	4.8	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2258999 2259000

Parameter	Units	60283561007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.31J	5	5	6.5	6.7	124	127	80-120	2	15	M1
Fluoride	mg/L	<0.19	2.5	2.5	3.6	3.7	145	149	80-120	3	15	M1
Sulfate	mg/L	<0.24	5	5	6.9	6.9	139	139	80-120	0	15	M1

SAMPLE DUPLICATE: 2259001

Parameter	Units	60283589006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	<0.29	<0.29		15	
Fluoride	mg/L	<0.19	<0.19		15	
Sulfate	mg/L	<0.24	<0.24		15	

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REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-K	Pace Analytical Services - Kansas City

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, LLC
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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURLINGTON 25216066.18
Pace Project No.: 60283589

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60283589001	**MW-307**		551332		
60283589002	**MW-308**		551332		
60283589003	**MW-309**		551332		
60283589004	**MW-310**		551332		
60283589005	**MW-311**		551332		
60283589001	**MW-307**	EPA 3010	550250	EPA 6010	550502
60283589002	**MW-308**	EPA 3010	550250	EPA 6010	550502
60283589003	**MW-309**	EPA 3010	550250	EPA 6010	550502
60283589004	**MW-310**	EPA 3010	550250	EPA 6010	550502
60283589005	**MW-311**	EPA 3010	550250	EPA 6010	550502
60283589006	**FIELD BLANK**	EPA 3010	550250	EPA 6010	550502
60283589001	**MW-307**	EPA 3010	552583	EPA 6020	552695
60283589002	**MW-308**	EPA 3010	552583	EPA 6020	552695
60283589003	**MW-309**	EPA 3010	552583	EPA 6020	552695
60283589004	**MW-310**	EPA 3010	552583	EPA 6020	552695
60283589005	**MW-311**	EPA 3010	552583	EPA 6020	552695
60283589006	**FIELD BLANK**	EPA 3010	552583	EPA 6020	552695
60283589001	**MW-307**	EPA 7470	551414	EPA 7470	551476
60283589002	**MW-308**	EPA 7470	551414	EPA 7470	551476
60283589003	**MW-309**	EPA 7470	551414	EPA 7470	551476
60283589004	**MW-310**	EPA 7470	551414	EPA 7470	551476
60283589005	**MW-311**	EPA 7470	551414	EPA 7470	551476
60283589006	**FIELD BLANK**	EPA 7470	551414	EPA 7470	551476
60283589001	**MW-307**	SM 2540C	549785		
60283589002	**MW-308**	SM 2540C	549785		
60283589003	**MW-309**	SM 2540C	549785		
60283589004	**MW-310**	SM 2540C	549785		
60283589005	**MW-311**	SM 2540C	549785		
60283589006	**FIELD BLANK**	SM 2540C	549785		
60283589001	**MW-307**	EPA 9040	549506		
60283589002	**MW-308**	EPA 9040	549506		
60283589003	**MW-309**	EPA 9040	549506		
60283589004	**MW-310**	EPA 9040	549506		
60283589005	**MW-311**	EPA 9040	549506		
60283589006	**FIELD BLANK**	EPA 9040	549506		
60283589001	**MW-307**	EPA 9056	550860		
60283589002	**MW-308**	EPA 9056	550860		
60283589003	**MW-309**	EPA 9056	550860		
60283589004	**MW-310**	EPA 9056	550860		
60283589005	**MW-311**	EPA 9056	550860		
60283589006	**FIELD BLANK**	EPA 9056	550860		

REPORT OF LABORATORY ANALYSIS

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60283589

60283589

Client Name: SCS Eng

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

Tracking #: 454227853062 Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☑ Other ☐

Thermometer Used: T-298 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 3.0 **Corr. Factor** 0.0 **Corrected** 3.0

Date and initials of person examining contents: 10/12/18

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐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	

IHNK

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Hank

Project Manager Review: 09:45 am,Oct 15,2018 Date: _____

Kapka

F-KS-C-003-Rev.11, February 28, 2018

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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: 25216066.18

Section C — Invoice Information:

Attention: Meghan Blodgett/Jess Valcheff
Company Name: SCS Engineers
Address:
Pace Quote Reference:
Pace Project Manager: Trudy Gipson 913-563-1405
Pace Profile #: 6696 Line 2

REGULATORY AGENCY

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

Site Location STATE: IA

Section D — Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	6010 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	[redacted]																	N								
2	[redacted]																	N								
3	[redacted]																	N								
4	[redacted]																									
5	[redacted]																									
6	[redacted]																									
7	MW-307	WT	G	xxx	xxx	10/10/18	1252	5.6	3	1		2						X	X	X	X	X	X			001
8	MW-308	WT	G	xxx	xxx	10/10/18	1401	5.3	3	1		2						X	X	X	X	X	X			002
9	MW-309	WT	G	xxx	xxx	10/10/18	1343	5.6	3	1		2						X	X	X	X	X	X			003
10	MW-310	WT	G	xxx	xxx	10/10/18	0856	17.0	3	1		2						X	X	X	X	X	X			004
11	MW-311	WT	G	xxx	xxx	10/10/18	0929	16.3	3	1		2						X	X	X	X	X	X			005
12	FIELD BLANK	WT	G	xxx	xxx	10/10/18	1345		3	1		2						X	X	X	X	X	X			006

6083589
Pace Project No./ Lab I.D.

2B A3N BP2U

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219	Gary Stuhel	10/11/18	1200	[signature]	10/12	1010	3.0	Y	Y	Y
Sb-As-Ba-Be-Cd-Co-Cr-Pb-Mo-Se-Tl										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Gary Stuhel

SIGNATURE of SAMPLER: Gary Stuhel

DATE Signed (MM/DD/YY): 10/11/18

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

October 31, 2018

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on October 12, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Hank Kapka
hank.kapka@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Tom Karwaski, SCS Engineers
Nicole Kron, SCS Engineers
Jeff Maxted, Alliant Energy
Jess Valcheff, SCS Engeineers

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

CERTIFICATIONS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Pennsylvania Certification IDs

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

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SAMPLE SUMMARY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60283553001	**MW-301**	Water	10/09/18 16:09	10/12/18 10:10
60283553002	**MW-302**	Water	10/09/18 16:26	10/12/18 10:10
60283553003	**MW-303**	Water	10/10/18 10:26	10/12/18 10:10
60283553004	**MW-304**	Water	10/10/18 10:42	10/12/18 10:10
60283553005	**MW-305**	Water	10/10/18 12:26	10/12/18 10:10
60283553006	**MW-306**	Water	10/10/18 12:05	10/12/18 10:10

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SAMPLE ANALYTE COUNT

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60283553001	**MW-301**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283553002	**MW-302**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283553003	**MW-303**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283553004	**MW-304**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283553005	**MW-305**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283553006	**MW-306**	EPA 903.1	MK1	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 25216066.18
Pace Project No.: 60283553

Sample: MW-301 **Lab ID: 60283553001** Collected: 10/09/18 16:09 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.534 ± 0.368 (0.393) C:NA T:90%**	pCi/L	10/26/18 21:54	13982-63-3	
Radium-228	EPA 904.0	**0.966 ± 0.729 (1.43) C:67% T:86%**	pCi/L	10/25/18 19:45	15262-20-1	
Total Radium	Total Radium Calculation	**1.50 ± 1.10 (1.82)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Sample: MW-302 **Lab ID: 60283553002** Collected: 10/09/18 16:26 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**1.10 ± 0.451 (0.120) C:NA T:114%**	pCi/L	10/26/18 22:07	13982-63-3	
Radium-228	EPA 904.0	**1.05 ± 0.753 (1.47) C:65% T:86%**	pCi/L	10/25/18 19:45	15262-20-1	
Total Radium	Total Radium Calculation	**2.15 ± 1.20 (1.59)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Sample: MW-303 **Lab ID: 60283553003** Collected: 10/10/18 10:26 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.997 ± 0.507 (0.487) C:NA T:99%**	pCi/L	10/26/18 22:07	13982-63-3	
Radium-228	EPA 904.0	**0.913 ± 0.763 (1.55) C:69% T:88%**	pCi/L	10/25/18 19:46	15262-20-1	
Total Radium	Total Radium Calculation	**1.91 ± 1.27 (2.04)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Sample: MW-304 **Lab ID: 60283553004** Collected: 10/10/18 10:42 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.233 ± 0.396 (0.699) C:NA T:86%**	pCi/L	10/26/18 22:07	13982-63-3	
Radium-228	EPA 904.0	**0.473 ± 0.786 (1.71) C:61% T:79%**	pCi/L	10/25/18 19:46	15262-20-1	
Total Radium	Total Radium Calculation	**0.706 ± 1.18 (2.41)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Sample: MW-305 **Lab ID: 60283553005** Collected: 10/10/18 12:26 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.423 ± 0.363 (0.491) C:NA T:100%**	pCi/L	10/26/18 22:07	13982-63-3	
Radium-228	EPA 904.0	**0.800 ± 0.626 (1.24) C:70% T:89%**	pCi/L	10/25/18 19:46	15262-20-1	
Total Radium	Total Radium Calculation	**1.22 ± 0.989 (1.73)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Sample: MW-306 **Lab ID: 60283553006** Collected: 10/10/18 12:05 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.383 ± 0.356 (0.469) C:NA T:84%**	pCi/L	10/26/18 22:07	13982-63-3	
Radium-228	EPA 904.0	**0.712 ± 0.702 (1.44) C:68% T:74%**	pCi/L	10/25/18 20:00	15262-20-1	
Total Radium	Total Radium Calculation	**1.10 ± 1.06 (1.91)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

QC Batch: 316964 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60283553001, 60283553002, 60283553003, 60283553004, 60283553005, 60283553006

METHOD BLANK: 1546500 Matrix: Water
Associated Lab Samples: 60283553001, 60283553002, 60283553003, 60283553004, 60283553005, 60283553006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.512 ± 0.380 (0.475) C:NA T:97%	pCi/L	10/26/18 21:23	

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 25216066.18
Pace Project No.: 60283553

QC Batch: 316967 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60283553001, 60283553002, 60283553003, 60283553004, 60283553005, 60283553006

METHOD BLANK: 1546503 Matrix: Water
Associated Lab Samples: 60283553001, 60283553002, 60283553003, 60283553004, 60283553005, 60283553006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.523 ± 0.446 (0.893) C:71% T:73%	pCi/L	10/25/18 16:18	

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 25216066.18
Pace Project No.: 60283553

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

Unc - Uncertainty: 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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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURLINGTON 25216066.18
Pace Project No.: 60283553

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60283553001	**MW-301**	EPA 903.1	316964		
60283553002	**MW-302**	EPA 903.1	316964		
60283553003	**MW-303**	EPA 903.1	316964		
60283553004	**MW-304**	EPA 903.1	316964		
60283553005	**MW-305**	EPA 903.1	316964		
60283553006	**MW-306**	EPA 903.1	316964		
60283553001	**MW-301**	EPA 904.0	316967		
60283553002	**MW-302**	EPA 904.0	316967		
60283553003	**MW-303**	EPA 904.0	316967		
60283553004	**MW-304**	EPA 904.0	316967		
60283553005	**MW-305**	EPA 904.0	316967		
60283553006	**MW-306**	EPA 904.0	316967		
60283553001	**MW-301**	Total Radium Calculation	318649		
60283553002	**MW-302**	Total Radium Calculation	318649		
60283553003	**MW-303**	Total Radium Calculation	318649		
60283553004	**MW-304**	Total Radium Calculation	318649		
60283553005	**MW-305**	Total Radium Calculation	318649		
60283553006	**MW-306**	Total Radium Calculation	318649		

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Sample Condition Upon Receipt

WO# : 60283553

60283553

Client Name: SCS

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

Tracking #: 5422783 3121 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 ☑ XPIC

Thermometer Used: T-299 Type of Ice: Wet ☑ Blue None

Cooler Temperature (°C): As-read 12.9 Corr. Factor +0.1 Corrected 13.0

Date and initials of person examining contents: 10/12/18 HF HK

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☑No ☐N/A	
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple ~~phases~~? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium Iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☑No ☐N/A	
Headspace in VOA vials (>6mm):	☐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: HWK Date: 10.12.2018

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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:	25216066.18	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.
																																60287553
1	MW-301	WT	G	xxx	xxx	10/9/18	1609	17.2	2			2							X	X	X	2 BPiN										001
2	MW-302	WT	G	xxx	xxx	10/9/18	1626	15.4	2			2							X	X	X											002
3	MW-303	WT	G	xxx	xxx	10/10/18	1026	15.6	2			2							X	X	X											003
4	MW-304	WT	G	xxx	xxx	10/10/18	1042	17.4	2			2							X	X	X											004
5	MW-305	WT	G	xxx	xxx	10/10/18	1226	16.2	2			2							X	X	X											005
6	MW-306	WT	G	xxx	xxx	10/10/18	1205	17.7	2			2							X	X	X											006
7	~~MW-307~~																															
8	~~MW-308~~																															
9	~~MW-309~~																															
10	~~MW-310~~																															
11	~~MW-311~~																															
12	~~FIELD BLANK~~																															

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	Gary Stukel	10/11/18	1700	Holly Fowler pasi	10/12/18	1010	13.0	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Gary Stukel

SIGNATURE of SAMPLER: Gary Stukel DATE Signed (MM/DD/YY): 10/11/18

*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

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☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: IA
Cert. Needed: ☒ Yes ☐ No

Workorder: 60283553 **Workorder Name:** BURLINGTON 25216066.18

Owner Received Date: 10/12/2018 Results Requested By: 11/2/2018

Report To	Subcontract To
Hank Kapka 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# : 30268450

30268450

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Combined Ra	Ra 226/228											LAB USE ONLY
1	MW-301	PS	10/9/2018 16:09	60283553001	Water	2						X	X											001
2	MW-302	PS	10/9/2018 16:26	60283553002	Water	2						X	X											002
3	MW-303	PS	10/10/2018 10:26	60283553003	Water	2						X	X											003
4	MW-304	PS	10/10/2018 10:42	60283553004	Water	2						X	X											004
5	MW-305	PS	10/10/2018 12:26	60283553005	Water	2						X	X											005
6	MW-306	PS	10/10/2018 12:05	60283553006	Water	2						X	X											006

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[signature]	10/15/18 1700	[signature]	10-16-18 1000	
2					
3					

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.*

Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name: Pace KS

Project # 30268450

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

Label ET
LIMS Login ET

Tracking #: 454227842608

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

Comments:	Yes	No	N/A	pH paper Lot# 10D4671 / Date and Initials of person examining contents: ET 10-16-18
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:				5.
Samples Arrived within Hold Time:				6.
Short Hold Time Analysis (<72hr remaining):				7.
Rush Turn Around Time Requested:				8.
Sufficient Volume:				9.
Correct Containers Used: -Pace Containers Used:				10.
Containers Intact:				11.
Orthophosphate field filtered				12.
Hex Cr Aqueous Compliance/NPDES sample field filtered				13.
Organic Samples checked for dechlorination:				14.
Filtered volume received for Dissolved tests				15.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.				16.
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed / Date/time of preservation / Lot # of added preservative
Headspace in VOA Vials (>6mm):				17.
Trip Blank Present: Trip Blank Custody Seals Present				18.
Rad Aqueous Samples Screened > 0.5 mrem/hr				Initial when completed: / Date:

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.

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

October 31, 2018

Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, WI 53718

RE: Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Dear Meghan Blodgett:
Enclosed are the analytical results for sample(s) received by the laboratory on October 12, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Hank Kapka
hank.kapka@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Tom Karwaski, SCS Engineers
Nicole Kron, SCS Engineers
Jeff Maxted, Alliant Energy
Jess Valcheff, SCS Engeineers

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CERTIFICATIONS

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Pennsylvania Certification IDs

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

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SAMPLE SUMMARY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60283555001	**MW-307**	Water	10/10/18 12:52	10/12/18 10:10
60283555002	**MW-308**	Water	10/10/18 14:01	10/12/18 10:10
60283555003	**MW-309**	Water	10/10/18 13:43	10/12/18 10:10
60283555004	**MW-310**	Water	10/10/18 08:56	10/12/18 10:10
60283555005	**MW-311**	Water	10/10/18 09:29	10/12/18 10:10
60283555006	**FIELD BLANK**	Water	10/10/18 13:45	10/12/18 10:10

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SAMPLE ANALYTE COUNT

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60283555001	**MW-307**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283555002	**MW-308**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283555003	**MW-309**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283555004	**MW-310**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283555005	**MW-311**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60283555006	**FIELD BLANK**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Sample: MW-307 **Lab ID: 60283555001** Collected: 10/10/18 12:52 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.988 ± 0.655 (0.863) C:NA T:83%**	pCi/L	10/26/18 21:39	13982-63-3	
Radium-228	EPA 904.0	**0.439 ± 0.427 (0.875) C:66% T:84%**	pCi/L	10/25/18 16:22	15262-20-1	
Total Radium	Total Radium Calculation	**1.43 ± 1.08 (1.74)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Sample: MW-308 **Lab ID: 60283555002** Collected: 10/10/18 14:01 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.275 ± 0.471 (0.826) C:NA T:91%**	pCi/L	10/26/18 21:54	13982-63-3	
Radium-228	EPA 904.0	**0.0585 ± 0.654 (1.51) C:65% T:81%**	pCi/L	10/25/18 20:06	15262-20-1	
Total Radium	Total Radium Calculation	**0.334 ± 1.13 (2.34)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Sample: MW-309 **Lab ID: 60283555003** Collected: 10/10/18 13:43 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.127 ± 0.322 (0.598) C:NA T:119%**	pCi/L	10/26/18 21:54	13982-63-3	
Radium-228	EPA 904.0	**0.919 ± 0.719 (1.42) C:66% T:81%**	pCi/L	10/25/18 20:07	15262-20-1	
Total Radium	Total Radium Calculation	**1.05 ± 1.04 (2.02)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Sample: MW-310 **Lab ID: 60283555004** Collected: 10/10/18 08:56 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**1.10 ± 0.855 (1.21) C:NA T:59%**	pCi/L	10/26/18 21:54	13982-63-3	
Radium-228	EPA 904.0	**1.46 ± 0.815 (1.47) C:64% T:86%**	pCi/L	10/25/18 20:44	15262-20-1	
Total Radium	Total Radium Calculation	**2.56 ± 1.67 (2.68)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Sample: MW-311 **Lab ID: 60283555005** Collected: 10/10/18 09:29 Received: 10/12/18 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.245 ± 0.417 (0.736) C:NA T:82%**	pCi/L	10/26/18 21:54	13982-63-3	
Radium-228	EPA 904.0	**0.574 ± 0.690 (1.46) C:64% T:84%**	pCi/L	10/25/18 20:08	15262-20-1	
Total Radium	Total Radium Calculation	**0.819 ± 1.11 (2.20)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Sample: FIELD BLANK **Lab ID: 60283555006** Collected: 10/10/18 13:45 Received: 10/12/18 10:10 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 ± 0.328 (0.541) C:NA T:99%**	pCi/L	10/26/18 21:54	13982-63-3	
Radium-228	EPA 904.0	**-0.416 ± 0.601 (1.48) C:62% T:87%**	pCi/L	10/25/18 19:45	15262-20-1	
Total Radium	Total Radium Calculation	**0.251 ± 0.929 (2.02)**	pCi/L	10/31/18 12:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

QC Batch: 316964 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 60283555001, 60283555002, 60283555003, 60283555004, 60283555005, 60283555006

METHOD BLANK: 1546500 Matrix: Water
Associated Lab Samples: 60283555001, 60283555002, 60283555003, 60283555004, 60283555005, 60283555006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.512 ± 0.380 (0.475) C:NA T:97%	pCi/L	10/26/18 21:23	

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 25216066.18
Pace Project No.: 60283555

QC Batch: 316967 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 60283555001, 60283555002, 60283555003, 60283555004, 60283555005, 60283555006

METHOD BLANK: 1546503 Matrix: Water
Associated Lab Samples: 60283555001, 60283555002, 60283555003, 60283555004, 60283555005, 60283555006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.523 ± 0.446 (0.893) C:71% T:73%	pCi/L	10/25/18 16:18	

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 25216066.18
Pace Project No.: 60283555

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

Unc - Uncertainty: 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, LLC
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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURLINGTON 25216066.18
Pace Project No.: 60283555

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60283555001	**MW-307**	EPA 903.1	316964		
60283555002	**MW-308**	EPA 903.1	316964		
60283555003	**MW-309**	EPA 903.1	316964		
60283555004	**MW-310**	EPA 903.1	316964		
60283555005	**MW-311**	EPA 903.1	316964		
60283555006	**FIELD BLANK**	EPA 903.1	316964		
60283555001	**MW-307**	EPA 904.0	316967		
60283555002	**MW-308**	EPA 904.0	316967		
60283555003	**MW-309**	EPA 904.0	316967		
60283555004	**MW-310**	EPA 904.0	316967		
60283555005	**MW-311**	EPA 904.0	316967		
60283555006	**FIELD BLANK**	EPA 904.0	316967		
60283555001	**MW-307**	Total Radium Calculation	318649		
60283555002	**MW-308**	Total Radium Calculation	318649		
60283555003	**MW-309**	Total Radium Calculation	318649		
60283555004	**MW-310**	Total Radium Calculation	318649		
60283555005	**MW-311**	Total Radium Calculation	318649		
60283555006	**FIELD BLANK**	Total Radium Calculation	318649		

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Sample Condition Upon Receipt

WO# : 60283555

60283555

Client Name: SCS

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

Tracking #: 4542 2783 3110 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 ☑ zpic

Thermometer Used: T-299 Type of Ice: Wet Blue None ☑

Cooler Temperature (°C): As-read 14.1 Corr. Factor +0.1 Corrected 14.2

HK

Date and initials of person examining contents: 10/12/18 HF

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☑No ☐N/A	
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple ~~phases~~? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☑No ☐N/A	
Headspace in VOA vials (>6mm):	☐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: HWK Date: 10-12-2018

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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: of

Section A — Required Client Information:
Company: SCS Engineers
Address: 2830 Dairy Drive
Madison WI 53718
Email To: mblodgett@scsengineers.com
Phone: 608-216-7362 Fax:
Requested Due Date/TAT:

Section B — Required Project Information:
Report To: Meghan Blodgett
Copy To: Tom Karwaski
Purchase Order No.:
Project Name: Burlington
Project Number: 25216066.18

Section C — Invoice Information:
Attention: Meghan Blodgett/Jess Valcheff
Company Name: SCS Engineers
Address:
Pace Quote Reference:
Pace Project Manager: Trudy Gipson 913-563-1405
Pace Profile #: 6696 Line 2

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

Section D — Required Client Information

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 (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	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	Requested Analysis Filtered (Y/N) Y/N	Analysis Test: 903.1 Radium-226	904.0 Radium-228	Total Radium		Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	[redacted]																							
2	[redacted]																							
3	[redacted]																							
4	[redacted]																							
5	[redacted]																							
6	[redacted]																							
7	MW-307	WT	G	xxx	xxx	10/10/18	1252	15.6	2			2							X	X	X	2 BOTTLES		
8	MW-308	WT	G	xxx	xxx	10/10/18	1401	15.3	2			2							X	X	X			
9	MW-309	WT	G	xxx	xxx	10/10/18	1343	15.6	2			2							X	X	X			
10	MW-310	WT	G	xxx	xxx	10/10/18	0856	17.4	2			2							X	X	X			
11	MW-311	WT	G	xxx	xxx	10/10/18	0929	16.3	2			2							X	X	X			
12	FIELD BLANK	WT	G	xxx	xxx	10/10/18	1345		2			2							X	X	X			

60283555

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship To: 9608 Loiret Boulevard, Lenexa, KS 66219				Holly Fowler PASI	10/12/18	1010	14.2	N	Y	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: Gary Stelkel
SIGNATURE of SAMPLER: Gary Stelkel
DATE Signed (MM/DD/YY): 10/11/18

*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

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: IA
Cert. Needed: ☒ Yes ☐ No

Workorder: 60283555 **Workorder Name:** BURLINGTON 25216066.18

Owner Received Date: 10/12/2018 **Results Requested By:** 11/2/2018

Report To	Subcontract To
Hank Kapka 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# : 30268449

30268449

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Combined Ra	Ra 226/ Ra 228	LAB USE ONLY
1	MW-307	PS	10/10/2018 12:52	60283555001	Water	2	X	X	001
2	MW-308	PS	10/10/2018 14:01	60283555002	Water	2	X	X	002
3	MW-309	PS	10/10/2018 13:43	60283555003	Water	2	X	X	003
4	MW-310	PS	10/10/2018 08:56	60283555004	Water	2	X	X	004
5	MW-311	PS	10/10/2018 09:29	60283555005	Water	2	X	X	005
6	FIELD BLANK	PS	10/10/2018 13:45	60283555006	Water	2	X	X	006

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	10/15/18 1700	[signature]	10-16-18 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.*

Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name: Pace KS

Project #: 30268449

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

Label ET

LIMS Login ET

Tracking #: 454227842608

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

pH paper Lot# 10D46671

Date and Initials of person examining contents: ET 10-16-18

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation.	✓			16. 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: ET Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ET Date: 10-16-18

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.