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NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Joyce Engineering

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: G. Van Ness Burbach, Ph.D., P.G. Phone: (336) 323-0092

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Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
John's River C&D Landfill Expansion (Phase 1A)	2500 Marsh Trail Morganton, NC	12-03	.1600	December 7-9, 2015, February 4, 2016

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☒ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify) _____

Notification attached?

☐ No. No groundwater or surface water standards were exceeded.
☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

G. Van Ness Burbach, Ph.D., PG — Technical Consultant — (336) 323-0092

Facility Representative Name (Print) — Title — (Area Code) Telephone Number

Signature — Date: 3/15/16

Affix NC Licensed/ Professional Geologist Seal

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Revised 6/2009

PREPARED FOR:

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JOHN'S RIVER WASTE MANAGEMENT FACILITY
PERMIT NO. 12-03
C&D EXPANSION - PHASE 1A

SECOND SEMIANNUAL WATER QUALITY MONITORING REPORT OF 2015

APRIL 2016

***PREPARED BY*:**

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Second Semiannual Water Quality Monitoring Report of 2015
John's River Waste Management Facility – Permit No. 12-03
C&D Expansion - Phase 1A
Burke County, North Carolina

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Burke County, North Carolina

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1.0 INTRODUCTION

1.1 Site Information

The Johns River Waste Management Facility (JRWMF) is located in the north-central portion of Burke County, north of Morganton, North Carolina. The 318-acre landfill property is bounded by Lower Creek to the north and east, and the Catawba River to the south. The Catawba River forms Lake Rhodhiss along the southeastern property line (Figure 1). Lake Rhodhiss is a long, narrow lake formed by the Rhodhiss Hydroelectric Dam located approximately 12 miles downstream of the landfill. The John's River flows into the Catawba River near the southwest corner of the landfill property. A MSW transfer facility is located in the eastern half of the property. A site plan showing all the pertinent features of the facility is provided in Drawing 1.

The site has rolling topography with elevations ranging from 975 feet to 1,150 feet above mean sea level (MSL). The central portion is generally gently sloping and contains the higher elevations; relatively steep slopes and significant drainage features are located around the perimeter. The 100-year flood boundary extends onto the landfill property. The adjacent property to the west of the Johns River Waste Management Facility consists of undeveloped, heavily wooded land. Properties within 2,000 feet of the landfill boundary are covered by surface water or are heavily wooded.

The C&D over MSW waste disposal unit consists of 28 acres in the southwest corner of the landfill property. The municipal solid waste (MSW) landfill began operation in April 1988, but was closed in 1997 to comply with Rule .1627(c)(10)(A) of the NCSWMR, a regulation governing MSW Landfills units that were not designed with a base liner and leachate collection system. Burke County has operated a permitted Construction and Demolition (C&D) disposal area on top of the closed portions of the MSW landfill since 1998. The results of the second semiannual sampling event for the old C&D over MSW landfill will be presented in a separate report.

A Permit to Construct for Phase 1A was issued in March 2014 and Burke County completed construction of Phase 1A of the C&D landfill expansion in July 2014. A Permit to Operate for Phase 1A was issued by the North Carolina Department of Environment and Natural Resources (DENR) on August 14, 2014. In accordance with the approved Water Quality Monitoring Plan (WQMP) for the facility (dated August 2012), there are four groundwater monitoring wells designated as compliance wells for Phase 1A: MW-21(background), MW-20, MW-22S, and MW-38.

1.2 Site Geology

The John's River Waste Management Facility is in close proximity to the Brevard Shear Zone, and is underlain by highly metamorphosed rocks including gneiss, schist, as well as calc-silicate rocks, felsic rocks, and metavolcanic rocks. The dominant rock type at the facility is biotite-muscovite schist, as seen in outcrops, boulders, and rock cores located on site. The structures within limited outcrops indicate that these rocks are complexly-folded, with attitudes that vary

from vertical to horizontal in most outcrops. The site regolith is typical of the inner piedmont and consists mostly of silty sand, clayey sand, and sandy silt. The regolith is up to 100 feet thick and varies in thickness with topography.

An abundance of rounded gravel, cobble, and boulder-sized alluvial deposits are exposed along the banks of the Catawba River, which borders the site. The greatest accumulation of these deposits is along the southwestern site boundary. These river deposits are 40 feet or more above the current river elevation and have been described as ancient river terrace deposits.

1.3 Regulatory Status

The following report of groundwater monitoring data from the JRWMF Phase 1A C&D expansion has been prepared in accordance with the North Carolina Solid Waste Management Rules (NCSWMR) 15A NCAC 13B §.0544 (Monitoring Plans and Requirements for C&D Landfill Facilities). The Phase 1A expansion is currently operating under the Detection Monitoring Program.

2.0 FACILITY MONITORING PROGRAM

2.1 Groundwater Monitoring Program

Groundwater monitoring at the JRWMF Phase 1A is performed in accordance with NCSWMR §.0544. Groundwater samples are collected semiannually and analyzed for constituents according to the approved Water Quality Monitoring Plan (WQMP) for the facility dated August 2012. Following is a summary of the compliance monitoring wells.

Well ID	Date Installed	Classification	Monitoring Program	Total Depth of Well (ft)	Lithology of Screened Interval	Constituent List
MW-20	5-18-95	Compliance	Detection	67.0	Saprolite	Comp.
MW-21	5-18-95	Background	Detection	45.0	Saprolite	Comp.
MW-22s	6-1-96	Compliance	Detection	25.0	Saprolite	Comp.
MW-38	5-09-11	Compliance/ Performance*	Detection	71.0	Bedrock	Comp., LFG

Notes: **Comp. =** Compliance Parameters: NCSWMR Appendix I and/or Appendix II organics and inorganics plus C&D parameters, as required for routine assessment or detection monitoring.

LFG = Landfill Gas Indicators: Dissolved CH_4 and dissolved CO_2.

*MW-38 is also a performance well for the C&D over MSW Landfill.

The current compliance groundwater monitoring network at the facility consists of one upgradient well (MW-21), and three downgradient wells (MW-20, MW-22S and MW-38).

In January 2014, in response to the County's permit application for the C&D expansion area, the DENR requested that the County sample several additional wells and/or piezometers in the vicinity of Phases 1 and 2 of the expansion. The County agreed to sample PZ-31, PZ-30S,

PZ-34, MW-36(PZ-36), PZ-12, and MW-15S semiannually beginning with the spring 2014 sampling event. The County also agreed to sample the following other wells/piezometers in the event of GPS exceedances, as follows:

- PZ-30D will be added in the event that there are GPS exceedances at PZ-30S;
- PZ-35 will be added in the event that there are GPS exceedances at PZ-34;
- MW-15D will be added in the event that there are GPS exceedances at MW-15S;
- PZ-16S will be added in the event that there are GPS exceedances at PZ-35 or PZ-12; and
- PZ-16D will be added in the event that there are GPS exceedances at PZ-16S.
- PZ-34 was inadvertently destroyed during the spring of 2014; therefore, PZ-35 is now sampled instead.

The additional piezometers/wells are to be sampled for the facility's COCs (excluding alpha-BHC). Sampling of the additional piezometers/wells will be conducted for two years (four sampling events), after which the DENR will reevaluate the need for continued sampling of the additional piezometers/wells.

2.2 Surface Water Monitoring Program

The current surface water monitoring points are SMP-5, SMP-6, and SMP-7. Surface water monitoring point SMP-5 (located at the southwestern property line) and SMP-6 (located at the southeastern property line) are both located downstream from existing sediment basins. Surface water monitoring point SMP-7 is located downstream from the Phase 1A expansion area. The surface water monitoring program is designed to monitor for possible impacts from both the C&D over MSW Landfill and the Phase 1A C&D Landfill; surface water samples are analyzed for the NCSWMR Appendix I list of constituents plus detected Appendix II constituents during both semiannual events.

Surface Point	Classification	Monitoring Program	Location
SMP-5	Compliance	Surface Water	Creek on west side of landfill, downstream of sediment basin.
SMP-6	Compliance	Surface Water	Creek on east side of landfill, downstream of sediment basin.
SMP-7	Compliance	Surface Water	Creek southeast of Phase 1A and east of sediment basin SB-2A. Downstream of PZ-12.

3.0 SECOND SEMIANNUAL SAMPLING EVENT OF 2015

3.1 Field Work

In order to detect potential releases of leachate and/or landfill gas migration in a timely manner, a visual inspection program has been implemented at the John's River Waste Management Facility. This inspection program involves field personnel making the following observations:

- Indications of stress on the biological community (e.g., dead or dying vegetation);
- Indications of leachate impact (e.g., seeps, impacted surface water);
- Observations of erosion;
- Condition of monitoring wells; and
- Negative changes around the waste facility.

On December 7-9, 2015, personnel from JOYCE visited John's River Waste Management Facility to purge and sample monitoring wells MW-20, MW-21, MW-22S, and MW-38. Additional wells/piezometers MW-15S, PZ-12, PZ-30S, PZ-31, PZ-35, and PZ-36 were also sampled. Surface monitoring points SMP-5, SMP-6, and SMP-7 were also sampled during the December 2015 event. The usual inspections indicated no unusual issues or concerns.

Depth-to-water measurements were obtained to the nearest 0.01 foot using an electronic water level indicator for all monitoring wells in the compliance network prior to purging. Table 1 presents current and historical groundwater elevation data. Monitoring wells were purged and sampled using disposable bailers. Measurements of temperature, pH, specific conductivity, and turbidity were recorded in the site log book as well as on field data logs prior to purging, after each purge volume, and during sampling. Field data logs for the December 2015 event are provided in Appendix A, and the field parameters are summarized in Table 2.

Laboratory-supplied containers were prepared and labeled (either by the laboratory or in the field, as indicated) with the following information:

- Monitoring well number (completed by field personnel),
- Date and time of sample collection (completed by field personnel),
- Initials of sampling personnel (completed by field personnel),
- Project name and number (completed by the laboratory),
- Chemical preservative (completed by the laboratory); and
- Requested chemical analysis (completed by the laboratory).

Groundwater samples from each monitoring well were dispensed directly from the disposable bailers into the provided laboratory containers either immediately after purging or within 24 hours of the final purge volume. Immediately after collection, the samples were placed in a laboratory-provided cooler and chilled with ice.

Surface water samples were collected directly from stream flow by lowering the prepared sample containers into the stream flow. Care was taken not the overflow the sample containers (which could lead to preservative loss) and avoid sample-induced turbidity. At the time of sampling, surface water was also measured for temperature, pH, specific conductivity, and turbidity and

recorded in the site log book. After sample collection, the samples were placed in a laboratory provided cooler and chilled on ice. Field data logs are provided in Appendix A, and the field parameters are summarized in Table 2.

3.2 Laboratory Analysis and JOYCE Quality Control

The Second Semiannual (December 2015) groundwater and surface water samples were submitted to Pace Analytical Services, Inc. of Huntersville, North Carolina under chain-of-custody control for analysis. The groundwater samples were analyzed for the NC Appendix I list of constituents, plus additional required C&D parameters. Surface water samples were analyzed for the NC Appendix I list of constituents (plus detected Appendix II constituents form the old C&D-over-MSW landfill) during both semiannual events. JOYCE requested a Level II data report for the final laboratory report. The samples were received by the laboratory in good condition, properly preserved, and within required hold times.

In addition to samples collected for compliance monitoring at the John's River Waste Management Facility, a Field Blank was collected by JOYCE personnel as part of the December 2015 sampling event. Also, a Trip Blank prepared by the laboratory accompanied the volatile sampling containers from and to the laboratory. The Field Blank was analyzed for the NC Appendix I, plus previously detected Appendix II list of constituents, plus iron, manganese and tetrahydrofuran, and the Trip Blank was analyzed for Appendix I list of constituents plus additional detected Appendix II volatile organic compounds and tetrahydrofuran.

Upon receipt of the laboratory data package, JOYCE personnel reviewed the data package for quality assurance/quality control (QA/QC) purposes and for possible regulatory issues. If any QA/QC or regulatory issues were found, the laboratory would be contacted to resolve the issue, and a resampling event might be scheduled, if needed. The laboratory analytical packages can be found in Appendix B of this report. The data package was reviewed for the following:

- General typographical errors;
- Correct analyses performed and within method specified hold times;
- Biased data results based on Surrogate Recoveries, Matrix Spike, Matrix Spike Duplicate, and Laboratory Control Samples;
- Blank-qualified data (B-flags);
- Detections exceeding the North Carolina 15A NCAC 2L .0202 Groundwater Standards (NC2L), DENR-SWS Groundwater Water Protection Standards (GWPS), and North Carolina 15A NCAC 2B Surface Water Standards (NC2B); and
- Detections that are above historical levels.

After the initial data review, a verification (resample) event for the metals in MW-22S was performed on February 4, 2016.

4.0 ANALYTICAL RESULTS AND STATISTICAL ANALYSIS

The constituents with quantified detections above the SWSL in one or more compliance monitoring wells are presented in Table 3 and the constituents with exceedances of the NC 2L

Standards or GWPS in one or more compliance monitoring wells are presented in Table 4. The constituents with quantified detections above the SWSL in one or more of the additional wells/piezometers are presented in Table 5 and the constituents with exceedances of the NC 2L Standards or GWPS in one or more additional wells/piezometers are presented in Table 6. The complete laboratory reports and chains of custody are included in Appendix B. Historical data are presented in Appendices D, E, and F.

4.1 Analytical Results for Inorganic Constituents

Eight inorganic constituents, were detected above the NC 2L/GWPS in one or more monitoring wells during the December 2015 sampling event. Initial data review demonstrated that the metal detections and concentrations reported in MW-22S were historically inconsistent and possibly the result of higher turbidity in the sample at the time of collection; therefore a verification sampling for metal constituents in MW-22S was conducted on February 4, 2016. The results of the verification sampling event reported only thallium, iron, and manganese above their respective NC 2L or GWPS. Thallium was not detected above the calculated background (see Section 4.3.2). Iron and manganese were reported above the NC 2L Standards in MW-20, MW-22S and MW-38, however; an ASD was approved for iron and manganese by DENR for the John's River facility on April 12, 2012. In general, the detections and concentrations are consistent with historical data.

4.2 Analytical Results for Organic Constituents

Three organic constituents, benzene, 1,1-dichloroethane, and 1,4-dichlorobenzene, were detected above the NC 2L Standards in compliance monitoring well MW-38 during the December 2015 sampling event. In addition, results from the additional wells/piezometers indicated NC 2L exceedances of benzene and tetrachloroethylene in MW-15S, and of benzene, 1,4-dichlorobenzene, and tetrachloroethene in MW-36. (Methylene chloride detected in MW-36 was blank qualified by a detection in the Trip Blank.) No other exceedances were noted in any of the other wells/piezometers.

The exceedances noted in MW-15S, MW-36, and MW-38 are believed to be due to landfill gas migration from the C&D-over-MSW Landfill and are being addressed in the Corrective Action Plan for that landfill. In general, the detections and concentrations are consistent with historical data.

4.3 Statistical Analyses

4.3.1 Statistical Methods and Background

MW-9 was the facility background well from 1994 until May 2005, when it was abandoned. MW-17 the facility background well from May 1999 until June 2011. Both MW-9 and MW-17 were sampled between May 1999 and May 2005. Due to gas related impacts to MW-17, MW-20 became the facility background well in December 2010. Both MW-17 and MW-20 were sampled between December 2010 and June 2011. With the opening of Phase 1A of the C&D

expansion in August 2014, MW-21 (formerly PZ-1) became the facility background well and MW-20 became a compliance well for Phase 1A.

Facility background data used to evaluate the December 2015 groundwater monitoring data include all data collected for wells MW-9, MW-17, and MW-20 from September 1994 through the December 2015 event, plus the May 2015 results from MW-21.

The background data for inorganic constituents were evaluated using the Shapiro-Wilk Test, Parametric Prediction Limits, Parametric Tolerance Intervals, Aitchison's Adjustment, Non-Parametric Prediction Limits, and/or Poisson Prediction Limits as appropriate. Background data, tests for normality, outliers, Aitchison's adjustment, tolerance interval, or prediction limits are used, as appropriate based on the background data. The statistical test by which downgradient data are compared to facility background data is based upon the nature of the data and the number of data values that are less than the laboratory limit of detection. All statistical tests are evaluated at the 0.05 level of significance, 95% confidence level, and are conducted as one-tailed tests.

4.3.2 Inorganic Constituents

The inorganic constituents detected at quantifiable concentrations (excluding blank-qualified data) above the North Carolina SWSL in down gradient monitoring wells in the December 2015 sampling event initially included arsenic, barium, beryllium, chromium, cobalt, iron, manganese, thallium, vanadium, and zinc, primarily in MW-22S; however, since the detections in MW-22S were historically unusual, a verification sample was collected for the metals on February 4, 2016. The results of the verification sample were that only thallium, iron, and manganese concentrations were detected above their respective NC 2L or SWS GWP Standard. Iron and manganese were addressed in an ASD approved by DENR in April 2012. Details of the statistical analyses of background data for thallium can be found in Appendix C. A summary of the statistical analyses is given below and in Table 7.

Constituent	Data Distribution	Statistical Method used to Establish Background	Background Concentration	NC2L or GWPS*
Thallium	92% ND	Upper Poisson Prediction Limit	36.8 µg/L	0.28 µg/L*

ND = Not Detected (truncated data).

4.4 Analytical Results for Surface Water

There were no constituents detected at quantified concentrations or above the NC 2B Surface Water Standards (NC2B) during the December 2015 event. In general, the December 2015 surface water results are consistent with the historical data. Current and historical surface water data can be found in Appendix F.

5.0 HYDROGEOLOGICAL CONDITIONS

Based on outcrop and drilling information, the water table appears to occur within regolith everywhere across the site. This regolith consists of alluvium, residual soils, saprolite, and variably fractured and weathered layered metamorphic rock. Inspection of drill cuttings and site outcrops indicates that water in the regolith is transmitted largely through fractures. In this regard, regolith behaves similar to unweathered bedrock, except that fractures are more numerous and better connected in the regolith, and will tend to have more isotropic hydraulic properties. Along the low-lying areas of the Catawba River and its tributaries, the water table occurs within surficial alluvial deposits overlying the residual soils and weathered bedrock.

Groundwater discharges into creeks to the east and west of the landfill and to the Catawba River to the south. A groundwater potentiometric surface map, developed from static water level data obtained in December 2015, is presented as Drawing 1. The potentiometric surface map depicts groundwater flow primarily to the south.

Depth to groundwater was measured in the compliance monitoring wells at the site prior to sampling. The December 2015 and historical groundwater elevations are provided in Table 1. The groundwater elevations were calculated relative to the surveyed measuring point (top of casing) for each monitoring well. Horizontal groundwater gradients along representative flow paths were estimated from the December 2015 groundwater contours shown on Drawing 1 and are summarized in Table 8. Horizontal gradients across the site ranged from 0.0390 to 0.0546 ft/ft, with an average of approximately 0.0480 ft/ft. This is consistent with previous estimates.

Linear groundwater flow velocities for wells screened in saprolite were computed using the modified Darcy equation: $\boldsymbol{V = Ki/n}$, where $\boldsymbol{V}$ = average linear velocity, $\boldsymbol{K}$ = hydraulic conductivity, $\boldsymbol{i}$ = horizontal hydraulic gradient, and $\boldsymbol{n}$ = effective porosity. The average of hydraulic conductivities from slug-tests conducted at the facility ($\boldsymbol{K}$ = 3.28 ft/day) was used in these calculations, along with an effective porosity of $\boldsymbol{n}$ = 0.40 (40%) based on laboratory porosities for soil samples from the facility.

The estimated linear groundwater flow velocity under the facility ranged from 117-164 feet/year, with an average flow velocity of approximately 144 feet/year (Table 8). Because of our conservative estimate of effective porosity, actual groundwater velocities may be significantly less than those calculated. Also, the modified Darcy equation makes the simplified assumptions of a homogeneous and isotropic aquifer, which may yield inaccurate results when applied to heterogeneous and/or anisotropic conditions such as are believed to exist at this site.

The groundwater flow direction and rate have shown no significant seasonal variations over several years of monitoring. The groundwater flow regime on this site is well constrained and predictable. Migration of groundwater contaminants are expected to follow the general groundwater flow paths and there are no known preferred pathways or barriers to groundwater flow that could significantly affect plume migration or the effectiveness of the groundwater monitoring network to monitoring plume migration. The current groundwater monitoring network remains sufficient for monitoring the groundwater at this facility

6.0 CONCLUSION

There were several organic constituents detected above the NC 2L Groundwater Standards at the John's River Landfill during the December 2015 sampling event. These exceedances are generally consistent with previous sampling events, are attributed to the old C&D-over-MSW Landfill covered by a separate report, and are being addressed by the Corrective Action Plan for the facility.

Thallium was detected in MW-22S above the GWPS; however, thallium was not detected above the calculated background concentration. An ASD was approved for iron and manganese by DENR on April 12, 2012. The inorganic results from the December 2015 are consistent with historical data.

There were no organic or inorganic detections above the NC 2B Surface Water Standards for surface water samples from the December 2015 sampling event.

The groundwater flow regime is consistent with previous events and the groundwater monitoring network remains adequate to monitor the site. Based on analytical results from the December 2015 sampling event, Phase 1A of the John's River Landfill will remain in Detection Monitoring. The next semiannual sampling event is scheduled for the second quarter of 2016.

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9.0 ACRONYMS

ACM	Assessment of Corrective Measures (Report)
AMSL	Above Mean Sea Level
AOC	Area of Concern
BGS	Below Ground Surface
C&D	Construction and Demolition Waste
CAP	Corrective Action Plan (Report)
CAER	Corrective Action Evaluation Report (Report)
CAMP	Corrective Action Monitoring Plan (Report)
CAS	Chemical Abstracts Service
CFR	Code of Federal Regulations
CPVC	Chlorinated Poly Vinyl Chloride
COC	Contaminant of Concern (for corrective action)
COC	Chain of Custody (for sampling and lab reports)
DENR	North Carolina Department of Environment and Natural Resources
DL	Detection Limit (for laboratory data)
DO	Dissolved Oxygen
EPA	United States Environmental Protection Agency (or USEPA)
GWPS	Groundwater Protection Standards (Established by DENR-SWS)
JOYCE	Joyce Engineering
LFG	Landfill Gas
MNA	Monitored Natural Attenuation
MSW	Municipal Solid Waste
MW	Monitoring Well
NC2B	North Carolina Surface Water Standards found in 15A NCAC 2B
NC2L	North Carolina Groundwater Standards found in 15A NCAC 2L
NCAC	North Carolina Administrative Code
NCGS	North Carolina Geological Survey
NCSWMR	North Carolina Solid Waste Management Regulations (15A NCAC 13B.1600)
ND	Not Detected (for laboratory data)
NES	Nature and Extent Study (Report)
O&M	Operations and Maintenance
QL	Quantitation Limit (for laboratory data)
QRA	Quantitative Risk Assessment (Report)

RL	Reporting Limit (for laboratory data)
RQD	Rock Quality Designation
SPT	Standard Penetration Test
SSI	Statistically Significant Increase (above background concentrations)
SWQS	Surface Water Quality Standards
SWS	Solid Waste Section (of DENR-Division of Waste Management)
SWSL	North Carolina Solid Waste Section Reporting Limits
TOC	Top of Casing (Well)
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency (or EPA)
USGS	United States Geological Survey
VOC	Volatile Organic Compound
WQMP	Water Quality Monitoring Plan (Report)

TABLES

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TABLE 1: HISTORICAL GROUNDWATER ELEVATIONS

Classification:	Background	Phase 1A Compliance			Additional Wells & Piezometers				
Well No.	**MW-21** (PZ-1)	**MW-20** (PZ-4)	**MW-22S** (PZ-22S)	**MW-38** (PZ-38)	**MW-36** (PZ-36)	**MW-15S**	**PZ-12**	**PZ-30S**	**PZ-31**
TOC Elevation	1099.86	1115.04	1061.20	1087.76	1099.52	1069.04	1025.64	1088.92	1089.81
Well Depth	41.00	67.00	27.63	73.13	45.00	56.16	15.09	55.25	43.13
06/18/96	NM	NM	1049.88	NI	NI	1022.70	1017.92	NI	NI
12/04/96	NM	NM	1046.75	NI	NI	1021.30	1017.91	NI	NI
05/06/14	1066.06	1058.24	1048.70	1042.18	1069.17	1025.74	1018.14	1041.92	1064.14
10/21/14	1063.48	1056.42	1045.76	1045.18	1066.52	1024.64	1017.68	1048.92	1061.04
05/21/15	1062.18	1053.69	1043.65	1044.68	1066.03	1025.17	1017.60	1047.22	1060.17
12/09/15	1061.71	1051.65	1042.60	1046.24	1066.72	1025.19	1017.69	1045.57	1058.70

Notes:
All elevations are in feet above mean sea level.
NM = Groundwater level not measured.
NI = well not yet installed.

TABLE 2: Field Parameters

WELL ID	PARAMETER	RESULT	UNITS	COLLECT DATE
MW-15S	pH	5.11	S.U.	12/9/2015
MW-15S	Temperature	15.1	ºC	12/9/2015
MW-15S	Turbidity	21.4	NTU	12/9/2015
MW-15S	Conductivity	51.5	µS	12/9/2015
MW-15S	Static Water Level	43.85	ft	12/9/2015
MW-15S	Well Depth	58.27	ft	12/9/2015
MW-15S	Dissolved CO2	110	mg/L	12/9/2015
MW-20	pH	6.09	S.U.	12/8/2015
MW-20	Temperature	16.2	ºC	12/8/2015
MW-20	Dissolved Oxygen	7.53	mg/L	12/8/2015
MW-20	Oxygen Reduction Potential	148.8	mg/L	12/8/2015
MW-20	Turbidity	55.6	NTU	12/8/2015
MW-20	Static Water Level	63.39	ft	12/8/2015
MW-20	Well Depth	67.00	ft	12/8/2015
MW-21	pH	5.13	S.U.	12/8/2015
MW-21	Temperature	15.2	ºC	12/8/2015
MW-21	Conductivity	15.5	µS	12/8/2015
MW-21	Dissolved Oxygen	7.78	mg/L	12/8/2015
MW-21	Oxygen Reduction Potential	269.9	mg/L	12/8/2015
MW-21	Ferrous Iron	0	mg/L	12/8/2015
MW-21	Turbidity	25.5	NTU	12/8/2015
MW-21	Static Water Level	38.15	ft	12/8/2015
MW-21	Well Depth	46.80	ft	12/8/2015
MW-22S	pH	5.48	S.U.	12/9/2015
MW-22S	Temperature	15.9	ºC	12/9/2015
MW-22S	Conductivity	15.9	µS	12/9/2015
MW-22S	Turbidity	48.3	NTU	12/9/2015
MW-22S	Static Water Level	18.60	ft	12/9/2015
MW-22S	Well Depth	26.40	ft	12/9/2015
MW-22S	pH	5.93	S.U.	2/4/2016
MW-22S	Temperature	15.0	ºC	2/4/2016
MW-22S	Conductivity	24.3	µS	2/4/2016
MW-22S	Turbidity	16.3	NTU	2/4/2016
MW-22S	Static Water Level	17.89	ft	2/4/2016
MW-22S	Well Depth	26.40	ft	2/4/2016
MW-36	pH	5.38	S.U.	12/9/2015
MW-36	Temperature	15.5	ºC	12/9/2015
MW-36	Conductivity	232	µS	12/9/2015
MW-36	Dissolved CO2	235	mg/L	12/9/2015
MW-36	Turbidity	17.41	NTU	12/9/2015
MW-36	Static Water Level	32.80	ft	12/9/2015
MW-36	Well Depth	45.58	ft	12/9/2015
MW-38	pH	6.19	S.U.	12/9/2015
MW-38	Temperature	15.6	ºC	12/9/2015
MW-38	Conductivity	493.0	µS	12/9/2015
MW-38	Static Water Level	41.52	ft	12/9/2015
MW-38	Well Depth	74.5	ft	12/9/2015

TABLE 2: Field Parameters

WELL ID	PARAMETER	RESULT	UNITS	COLLECT DATE
PZ-12	pH	5.14	S.U.	12/9/2015
PZ-12	Temperature	11.7	ºC	12/9/2015
PZ-12	Conductivity	27	µS	12/9/2015
PZ-12	Dissolved CO2	25	mg/L	12/9/2015
PZ-12	Turbidity	33.6	NTU	12/9/2015
PZ-12	Static Water Level	7.95	ft	12/9/2015
PZ-12	Well Depth	6.86	ft	12/9/2015
PZ-30S	pH	5.47	S.U.	12/8/2015
PZ-30S	Temperature	15.5	ºC	12/8/2015
PZ-30S	Conductivity	30	µS	12/8/2015
PZ-30S	Turbidity	7.55	NTU	12/8/2015
PZ-30S	Static Water Level	43.35	ft	12/8/2015
PZ-30S	Well Depth	55.30	ft	12/8/2015
PZ-31	pH	5.69	S.U.	12/8/2015
PZ-31	Temperature	15.4	ºC	12/8/2015
PZ-31	Conductivity	29	µS	12/8/2015
PZ-31	Dissolved CO2	5	mg/L	12/8/2015
PZ-31	Turbidity	8.25	NTU	12/8/2015
PZ-31	Static Water Level	31.11	ft	12/8/2015
PZ-31	Well Depth	45.60	ft	12/8/2015
PZ-35	pH	5.42	S.U.	12/9/2015
PZ-35	Temperature	15.9	ºC	12/9/2015
PZ-35	Conductivity	29	µS	12/9/2015
PZ-35	Turbidity	25.1	NTU	12/9/2015
PZ-35	Static Water Level	21.55	ft	12/9/2015
PZ-35	Well Depth	39.05	ft	12/9/2015
SMP-5	pH	5.93	S.U.	12/9/2015
SMP-5	Temperature	8	ºC	12/9/2015
SMP-5	Conductivity	59	µS	12/9/2015
SMP-5	Turbidity	6.61	NTU	12/9/2015
SMP-6	pH	6.18	S.U.	12/9/2015
SMP-6	Temperature	6.3	ºC	12/9/2015
SMP-6	Conductivity	39	µS	12/9/2015
SMP-6	Turbidity	6.07	NTU	12/9/2015
SMP-7	pH	5.46	S.U.	12/9/2015
SMP-7	Temperature	8.5	ºC	12/9/2015
SMP-7	Conductivity	38	µS	12/9/2015
SMP-7	Turbidity	4.33	NTU	12/9/2015

Notes:
ºC= degrees Centigrade
S.U.= Standard Units
µS = microsemens
NTU = Nephelometric Turbidity Units
mg/L = milligrams per liter
ft = feet
MW-22S Verification/Resample Parameters from February 4, 2016 Included on this table.

TABLE 3: Quantified Detections of Groundwater Constituents

WELL ID	PARAMETER	RESULT	UNITS	SWSL	COLLECT DATE
1203-MW20	Iron	3,590	µg/L	300	12/8/2015
1203-MW20	Manganese	68.5	µg/L	50	12/8/2015
1203-MW20	Zinc	10.3	µg/L	10	12/8/2015
1203-MW20	Alkalinity, Total as CaCO3	8,280	µg/L	NE	12/8/2015
1203-MW20	Chloride	1,840	µg/L	NE	12/8/2015
1203-MW20	Total Dissolved Solids, Dissolved	31,000	µg/L	NE	12/8/2015
1203-MW21	Iron	1,380	µg/L	300	12/8/2015
1203-MW22S	Arsenic	12.7	µg/L	10	12/9/2015
1203-MW22S	Arsenic (resample)	5.8 J	µg/L	10	2/4/2016
1203-MW22S	Barium	1,110	µg/L	100	12/9/2015
1203-MW22S	Barium (resample)	264	µg/L	100	2/4/2016
1203-MW22S	Beryllium	3.4	µg/L	1	12/9/2015
1203-MW22S	Beryllium (resample)	0.83 J	µg/L	1	2/4/2016
1203-MW22S	Chromium	16.8	µg/L	10	12/9/2015
1203-MW22S	Chromium (resample)	6.6 J	µg/L	10	2/4/2016
1203-MW22S	Cobalt	11.2	µg/L	10	12/9/2015
1203-MW22S	Cobalt (resample)	3.2 J	µg/L	10	2/4/2016
1203-MW22S	Copper	30	µg/L	10	12/9/2015
1203-MW22S	Copper (resample)	10.4	µg/L	10	2/4/2016
1203-MW22S	Iron	29,700	µg/L	300	12/9/2015
1203-MW22S	Iron (resample)	9,840	µg/L	300	2/4/2016
1203-MW22S	Lead	39.4	µg/L	10	12/9/2015
1203-MW22S	Lead (resample)	10.5	µg/L	10	2/4/2016
1203-MW22S	Manganese	462	µg/L	50	12/9/2015
1203-MW22S	Manganese (resample)	124	µg/L	50	2/4/2016
1203-MW22S	Thallium	ND	µg/L	5.5	12/9/2015
1203-MW22S	Thallium (resample)	9.1	µg/L	5.5	2/4/2016
1203-MW22S	Vanadium	44.8	µg/L	25	12/9/2015
1203-MW22S	Vanadium (resample)	16.0 J	µg/L	25	2/4/2016
1203-MW22S	Zinc	127	µg/L	10	12/9/2015
1203-MW22S	Zinc (resample)	36.5	µg/L	10	2/4/2016
1203-MW22S	Alkalinity, Total as CaCO3	6,670	µg/L	NE	12/9/2015
1203-MW22S	Chloride	4,200	µg/L	NE	12/9/2015
1203-MW22S	Total Dissolved Solids, Dissolved	96,000	µg/L	NE	12/9/2015
1203-MW38	Iron	27,800	µg/L	300	12/9/2015
1203-MW38	Manganese	3,220	µg/L	50	12/9/2015
1203-MW38	1,1-Dichloroethane	7.2	µg/L	5	12/9/2015
1203-MW38	1,4-Dichlorobenzene	12.2	µg/L	1	12/9/2015
1203-MW38	Benzene	4.4	µg/L	1	12/9/2015
1203-MW38	cis-1,2-Dichloroethene	14.7	µg/L	5	12/9/2015
1203-MW38	Tetrahydrofuran	39.1	µg/L	NE	12/9/2015
1203-MW38	Trichloroethene	2.1	µg/L	1	12/9/2015
1203-MW38	Alkalinity, Total as CaCO3	234,000	µg/L	NE	12/9/2015
1203-MW38	Chloride	4,390	µg/L	NE	12/9/2015
1203-MW38	Total Dissolved Solids, Dissolved	311,000	µg/L	NE	12/9/2015

Notes: µg/L = micorgrams per liter.
J = Estimated conentration belwo the SWSL. ND= Not detected.
SWSL = NC Soild Waste Section Reporting Limit. NE = Not established.
Laboratory Reporting limit used when SWSL has not been established.
MW-22S Verification/Resample Results from February 4, 2016, are shaded.

TABLE 4: Exceedences of Groundwater Standards

WELL ID	PARAMETER	RESULT	UNITS	SWSL	NC 2L/ *GWPS	GPS	COLLECT DATE
1203-MW20	Iron	3,590	µg/L	300	300	ASD	12/8/2015
1203-MW20	Manganese	68.5	µg/L	50	50	ASD	12/8/2015
1203-MW21	Iron	1,380	µg/L	300	300	ASD	12/8/2015
1203-MW22S	Arsenic	12.7	µg/L	10	10	10	12/9/2015
1203-MW22S	Arsenic (resample)	5.8 J	µg/L	10	10	10	2/4/2016
1203-MW22S	Barium	1,110	µg/L	100	700	700	12/9/2015
1203-MW22S	Barium (resample)	264	µg/L	100	700	700	2/4/2016
1203-MW22S	Beryllium	3.4	µg/L	1	4*	4	12/9/2015
1203-MW22S	Beryllium (resample)	0.83 J	µg/L	1	4*	4	2/4/2016
1203-MW22S	Chromium	16.8	µg/L	10	10	10	12/9/2015
1203-MW22S	Chromium (resample)	6.6 J	µg/L	10	10	10	2/4/2016
1203-MW22S	Cobalt	11.2	µg/L	10	1*	96.6	12/9/2015
1203-MW22S	Cobalt (resample)	3.2 J	µg/L	10	1*	96.6	2/4/2016
1203-MW22S	Copper	30	µg/L	10	1000	1000	12/9/2015
1203-MW22S	Copper (resample)	10.4	µg/L	10	1000	1000	2/4/2016
1203-MW22S	Iron	29,700	µg/L	300	300	ASD	12/9/2015
1203-MW22S	Iron (resample)	9,840	µg/L	300	300	ASD	2/4/2016
1203-MW22S	Lead	39.4	µg/L	10	15	15	12/9/2015
1203-MW22S	Lead (resample)	10.5	µg/L	10	15	15	2/4/2016
1203-MW22S	Manganese	462	µg/L	50	50	ASD	12/9/2015
1203-MW22S	Manganese (resample)	124	µg/L	50	50	ASD	2/4/2016
1203-MW22S	Thallium	ND	µg/L	5.5	0.28*	36.8	12/9/2015
1203-MW22S	Thallium (resample)	9.1	µg/L	5.5	0.28*	36.8	2/4/2016
1203-MW22S	Vanadium	44.8	µg/L	25	0.3*	630	12/9/2015
1203-MW22S	Vanadium (resample)	16.0 J	µg/L	25	0.3*	630	2/4/2016
1203-MW38	Iron	27,800	µg/L	300	300	ASD	12/9/2015
1203-MW38	Manganese	3,220	µg/L	50	50	ASD	12/9/2015
1203-MW38	1,1-Dichloroethane	**7.2**	µg/L	5	6	6	12/9/2015
1203-MW38	1,4-Dichlorobenzene	**12.2**	µg/L	1	6	6	12/9/2015
1203-MW38	Benzene	**4.4**	µg/L	1	1	1	12/9/2015

Notes: µg/L = Micorgrams per liter.
J = Estimated conentration belwo the SWSL. ND= Not detected.
SWSL = NC Soild Waste Section Reporting Limit.
NC2L = NC Groundwater Standard from 15A NCAC 2L.0202.
GWPS = NC Solid Waste Section Groundwater Protection Standard (for constituents with no NC2L).
GPS = Groundwater Protection Standard as defined by 15A NCAC 13B.1634(g).
Cobalt & thallium GPS are based on statistical background.
ASD = Approved Alternate Source Demonstration on record.
GPS Exceedances are bold.
MW-22S Verification/Resample Results from February 4, 2016, are shaded
THERE WERE NO EXCEEDANCES OF SURFACE WATER STANDARDS.
MW-38 Exceedences are impacts from the old C&D-over-MSWLF and not from new Phase 1A cell.

TABLE 5: Quantified Detections in Additional Wells and Piezometers

WELL ID	PARAMETER	RESULT	UNITS	SWSL	COLLECT DATE
1203-MW15S	1,4-Dichlorobenzene	1	µg/L	1	12/9/2015
1203-MW15S	Benzene	1.2	µg/L	1	12/9/2015
1203-MW15S	Methane	8,550	µg/L	NE	12/9/2015
1203-MW15S	Tetrachloroethene	2.1	µg/L	1	12/9/2015
1203-MW15S	Trichloroethene	1.1	µg/L	1	12/9/2015
1203-MW38	Methane	3,120	µg/L	NE	12/9/2015
1203-PZ36	1,1-Dichloroethane	5.9	µg/L	5	12/9/2015
1203-PZ36	1,4-Dichlorobenzene	19.6	µg/L	1	12/9/2015
1203-PZ36	Benzene	5.8	µg/L	1	12/9/2015
1203-PZ36	Methane	3,780	µg/L	NE	12/9/2015
1203-PZ36	Methylene Chloride	11.2	µg/L	1	12/9/2015
1203-PZ36	Tetrachloroethene	5	µg/L	1	12/9/2015
1203-PZ36	Trichloroethene	2.9	µg/L	1	12/9/2015

Notes: µg/L = micorgrams per liter
SWSL = NC Soild Waste Section Reporting Limit
Laboratory Reporting limit used when SWSL has not been established
B = Blank-qualified detection.

TABLE 6: Exceedances in Additional Wells/Piezometers

WELL ID	PARAMETER	RESULT	UNITS	SWSL	NC2L/*GWPS	GPS	COLLECT DATE
1203-MW15S	**Benzene**	**1.2**	**µg/L**	**1**	**1**	**1**	**12/9/2015**
1203-MW15S	**Tetrachloroethene**	**2.1**	**µg/L**	**1**	**0.7**	**0.7**	**12/9/2015**
1203-PZ36	**1,4-Dichlorobenzene**	**19.6**	**µg/L**	**1**	**6**	**6**	**12/9/2015**
1203-PZ36	**Benzene**	**5.8**	**µg/L**	**1**	**1**	**1**	**12/9/2015**
1203-PZ36	**Tetrachloroethene**	**5**	**µg/L**	**1**	**0.7**	**0.7**	**12/9/2015**

Notes: µg/L = micorgrams per liter
SWSL = NC Soild Waste Section Reporting Limit
Laboratory Reporting limit used when SWSL has not been established
NC2L = NC Groundwater Standard from 15A NCAC 2L.0202
GWPS = NC Solid Waste Section Groundwater Protection Standard (for constituents with no NC2L)
GPS = Groundwater Protection Standard as defined by 15A NCAC 13B.1634(g)
GPS Exceedances are bold.

TABLE 7:
Statistical Background Analyses

Analyte	Data Distribution	Statistical Method used to Establish Background	Background (µg/L)	SWSL (µg/L)	NC2L or *GWPS (µg/L)	GPS# (µg/L)	Sampling Result (µg/L)	GPS Exceedances
Thallium	92% ND	Poisson Prediction Limit: Interwell.	37.0	5.5	0.2*	25	9.1	None

Notes:
SWSL = NC Solid Waste Section Limits
NC 2L = NC Groundwater Standards (15A NCAC 2L.0202)
GWPS = Solid Waste Section Groundwater Protection Standards for Constituents with no NC 2L (indicated by *)
%ND = percentage of data that were non-detect (i.e., truncated).
Only constituents with quantified detections above the SWSL in down-gradient wells are included in statistical analyses.
GPS = Groundwater Protection Standard per 15A NCAC .1634(g)

TABLE 8: Hydraulic Gradients and Groundwater Flow Velocities

December 2015							
GRADIENT CALCULATION SEGMENT	FLOW LINE LENGTH (feet)	FLOW DIRECTION	GROUNDWATER ELEVATION (feet)	HORIZONTAL GRADIENT ***i*** (ft/ft)	HYDRAULIC CONDUCTIVITY ***K*** (ft/day)	EFFECTIVE POROSITY n_e	LINEAR VELOCITY ***V*** (ft/year)
i_1	967	SSW	1070	0.0517	3.28E+00	0.40	154.8
			1020				
i_2	1,495	S	1070	0.0468	3.28E+00	0.40	140.1
			1000				
i_3	1,098	SSE	1070	0.0546	3.28E+00	0.40	163.6
			1010				
i_4	770	SE	1060	0.0390	3.28E+00	0.40	116.6
			1030				
			AVERAGE:	**0.0480**		**AVERAGE:**	**143.8**

Notes:

Hydraulic conductivity (***K*** =3.28 ft/day) is based on the arithmetic means of ***K*** from individual slug tests in saprolite wells at the facility.

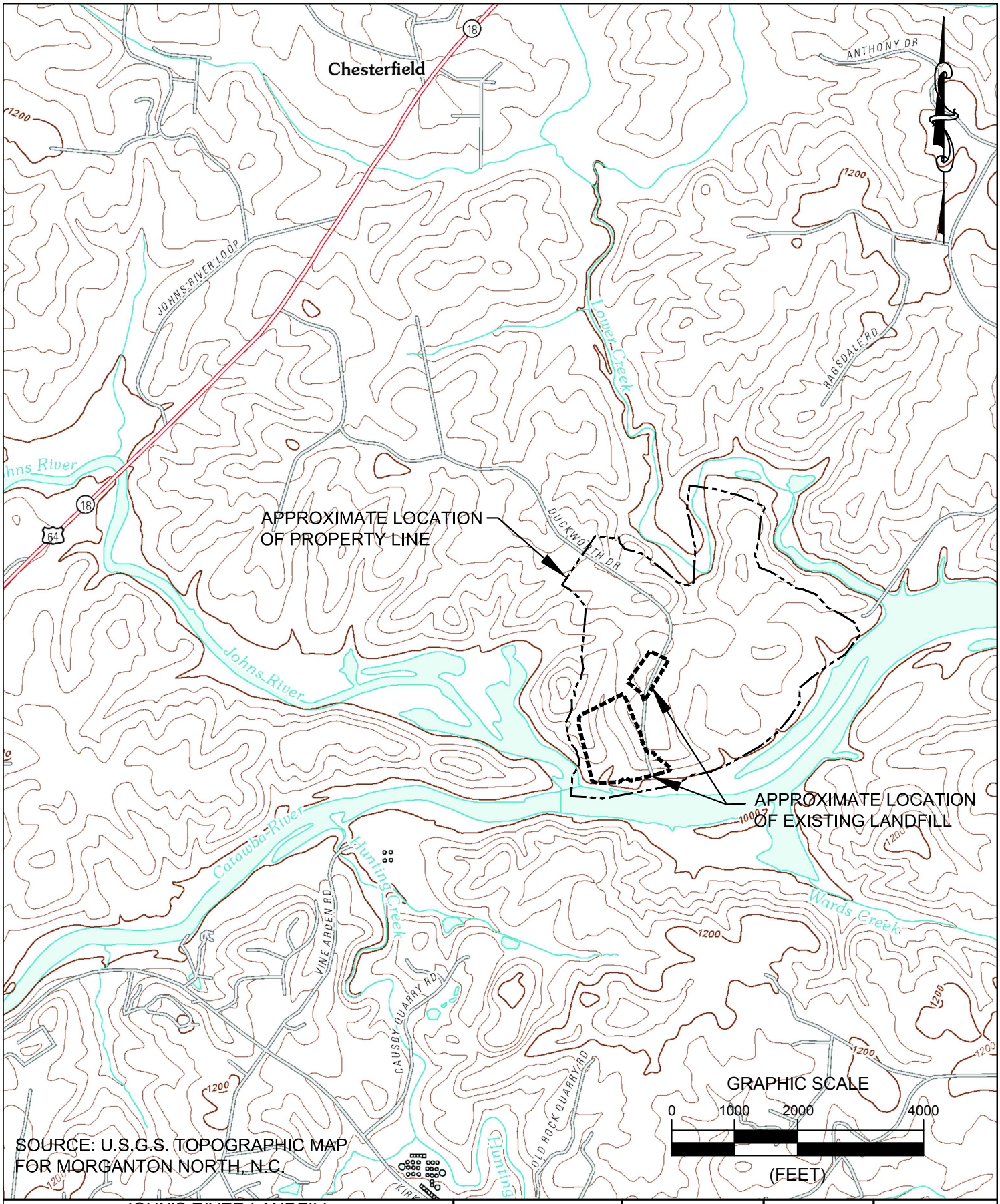
Effective Porosity (n_e = 0.40) is assummed to be slightly less than the average laboratory porosity for site soil samples (saprolite) = 44% (0.44).

Gradient segments are based on the December 2015 groundwater potentiometric surface map (see Drawing 1).

$V = Ki/n_e$; assumes homogeneous isotropic porous aquifer.

FIGURE

Figure 1: Site Location Map

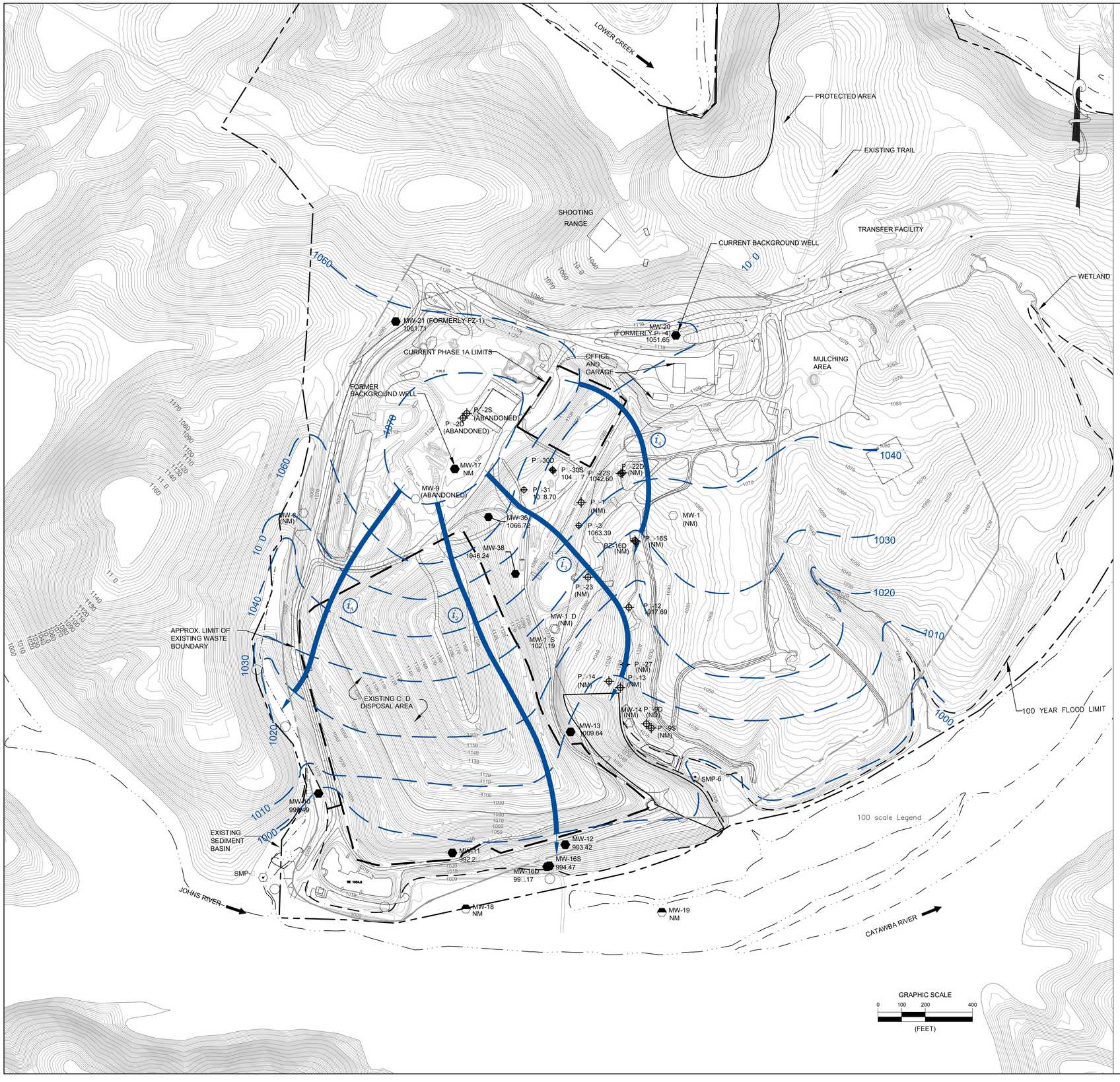


JOHN'S RIVER LANDFILL BURKE COUNTY, NORTH CAROLINA	JOYCE ENGINEERING 2211 W. MEADOWVIEW ROAD GREENSBORO, NC 27407 PHONE: (336) 323-0092	DESIGNED ACE DRAWN HRW CHECKED ACE APPROVED ACE DATE 2016	SCALE AS SHOWN	PROJECT NO. 277
SITE LOCATION MAP		© 2016 Joyce Engineering, Inc. All rights reserved.	NC CORP LIC: C-0782	FIGURE NO. 1

L:\Burke County\, John's River site location map.dwg

DRAWING

Drawing 1: Groundwater Potentiometric Surface Map



LEGEND

10 0	EXISTING 2 ' TOPOGRAPHIC CONTOUR
1080	EXISTING 10' TOPOGRAPHIC CONTOUR
	EXISTING ' TOPOGRAPHIC CONTOUR
	EXISTING 2' TOPOGRAPHIC CONTOUR
1020	GROUNDWATER SURFACE CONTOUR FEET ABOVE MEAN SEA LEVEL (AMSL)
	PROPERTY LINE
	GROUNDWATER FLOW PATHWAY USED TO CALCULATE HYDRAULIC GRADIENT
	EXISTING ROAD
	APPROXIMATE LIMITS OF WASTE
	CENTERLINE OF STREAM
MW-13 1009.64	COMPLIANCE WELL LOCATION AND IDENTIFICATION WITH STATIC WATER LEVEL ELEVATION (FEET AMSL)
MW-18	SENTINEL WELL LOCATION AND IDENTIFICATION WITH STATIC WATER LEVEL ELEVATION (FEET AMSL)
MW-9	ABANDONED OR UNUSED MONITORING WELL
P -9D	PIE OMETER LOCATION AND IDENTIFICATION
GMP-3	GAS PROBE LOCATION AND IDENTIFICATION
SMP-	SURFACE MONITORING POINT LOCATION AND IDENTIFICATION
T1	TEMPORARY WELL
(NM)	NOT MEASURED
	APPROXIMATE LOCATION OF SPRING HEAD
JE-0020	CONTROL POINT LOCATION AND IDENTIFICATION
i_1	SEGMENT USED FOR GRADIENT CALCULATION

FLOW PATH LENGTH

i_1	967 LF
i_2	1,49 LF
i_3	1,098 LF
i_4	770 LF

NOTES

1. TOPOGRAPHIC CONTOUR INTERVAL 2 AND 10 FEET.
2. GROUNDWATER SURFACE CONTOUR INTERVAL 10 FEET.
3. STATIC WATER LEVELS WERE MEASURED ON DECEMBER 9,201 .
4. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATA, TOPOGRAPHIC CONTOURS, AND KNOWN FIELD CONDITIONS.

 MW-16D GROUNDWATER ELEVATION WAS NOT USED IN CALCULATING GROUNDWATER CONTOURS.

NO	BY	CK	APP	REVISIONS AND RECORD OF ISSUE	DATE

DESIGNED	GE
DRAWN	RWH
CHECKED	VB
APPROVED	VB
DATE	01.13.16

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JOYCE ENGINEERING
2211 W. MEADOWVIEW ROAD
GREENSBORO, NC 27407
PHONE: (336) 323-0092

JOHNS RIVER, WASTE MANAGEMENT FACILITY
BURKE COUNTY, NORTH CAROLINA

GROUNDWATER POTENTIOMETRIC SURFACE MAP
DECEMBER 9, 201
PERMIT NO. 12-03

PROJECT NO.
277

SCALE
AS NOTED

DRAWING NO.
1

L:\B r e Co nty 2016 constit ents \ s 1- GW-EVENT 12-1 .DWG L yo t SHT 01

APPENDICES

Appendix A: Field Data Logs
Appendix B: Laboratory Analytical Reports
Appendix C: Statistical Analyses Worksheets
Appendix D: Historical Detected Groundwater Constituents
Appendix E: Historical Detected Constituents in Additional Wells and Piezometers
Appendix F: Historical Detected Surface Water Constituents

Appendix A

Field Data Logs

DATE: 12/8/15

JOYCE ENGINEERING

GROUND WATER SAMPLING LOG

Project Name: Burke County- Johns River **Project No. /Task No.:** 00277.1601.12.02

Well ID: MW-20 **Sampler(s):** G. Eller/ H. Seaton

Well Location: in field on left between shop and road to C&D entrance

Well Diameter: 2 inches

Initial Depth to Water (DTW): 63.39 feet

Depth to Bottom (DTB): 67.00 feet

Water Column Thickness (WCT): 3.61 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 0.6 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 1.8 gallons

Actual Amount Purged/Bailed: 1.8 gallons

Purged with: Disposable Bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling: 63.30 feet

Gallons	Time	Temp(°C)	DO	Cond. (µS)	pH	ORP	Turb. (ntu)	Initials
0	1052	15.9	7.39	32.2	6.61	93.4	28.9	HS
0.6	1055	15.9	7.92	19.8	6.29	137.4	875	HS
1.2	1059	15.9	7.65	19.7	6.07	154.1	>1000	HS
1.8	1101	15.9	8.10	22.4	6.03	169.8	>1000	HS
Before Sample	1530	16.2	7.53	24.1	6.09	148.8	55.6	HS

Comments (weather conditions, odor, color, silt, etc.): The weather was sunny with temperatures in the 60s on 12/8/15.

Signature: [signature] **Date:** 12-8-15

QA/QC Sign Off: [signature] **Date:** 1/6/16

Revised 12/30/05

DATE: 12/8/15

JOYCE ENGINEERING

DEVELOPMENT AND GROUND WATER SAMPLING LOG

Project Name: John's River, Burke Co **Project No./Task No.:** 277.1601.12.02

Well ID: MW-21 **Sampler(s):** G. Eller / H. Seaton

Well Location: Off the road by the western property boundary, up from GP-1

Well Diameter: 2 inches

Initial Depth to Water (DTW): 38.15 feet

Depth to Bottom (DTB): 46.80 feet

Water Column Thickness (WCT): 8.65 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.4 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 4.2 gallons

Actual Amount Purged/Bailed: 4.2 gallons

Purged with: Disposable Bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling: 38.20 feet

Gallons	Time	Temp(°C)	DO	Cond. (µS)	pH	ORP	Turb.(ntu)	Initials
0	0825	14.0	8.27	47.2	8.09	219.6	36.2	HS
1.4	0826	11.9	8.15	13.7	7.22	264.7	650	HS
2.8	0828	11.9	6.92	12.4	5.57	291.9	774	HS
4.2	0830	11.6	7.78	9.9	4.60	330.8	>1000	HS
Before Sampling	1120	15.2	7.59	15.5	5.13	269.9	25.5	HS

Comments (weather conditions, odor, color, silt, etc.): The weather was sunny with temperatures in the 60s on 12/8/15.

Fe2+: 0 mg/L

Signature: [signature] **Date:** 12-8-15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 12/9/15

JOYCE ENGINEERING

Development and GROUND WATER SAMPLING LOG

Project Name: John's River, Burke Co **Project No./Task No.:** 277.1601.12.02

Well ID: MW-22S **Sampler(s):** G. Eller / H. Seaton

Well Location: In the woods on the edge of the new C&D cell

Well Diameter: 2 inches

Initial Depth to Water (DTW): 18.60 feet

Depth to Bottom (DTB): 26.40 feet

Water Column Thickness (WCT): 7.80 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.3 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 3.9 gallons

Actual Amount Purged/Bailed: 3.9 gallons

Purged with: Disposable bailer

Sampled with: Disposable bailer

Depth to Water before Sampling: 17.90 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1351	16.1	5.17	25	26.8	HS
1.3	1353	16.1	5.15	27	>1000	HS
2.6	1355	15.8	5.21	29	>1000	HS
3.9	1357	15.5	5.32	29	>1000	HS
Before Sampling	1500	15.9	5.48	31	48.3	HS

Comments (weather conditions, odor, color, silt, etc.): The weather was sunny with temperatures in the 60s on 12/9/15.

. CO2: 30 mg/L

Signature: [signature] **Date:** 12-9-15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 12/9/15

JOYCE ENGINEERING

GROUND WATER SAMPLING LOG

Project Name: Burke County- Johns River **Project No. /Task No.:** 00277.1601.12.02

Well ID: MW-36 **Sampler(s):** H. Seaton / G. Eller

Well Location: Proposed expansion area, downhill from GP-2

Well Diameter: 2 inches

Initial Depth to Water (DTW): 32.80 feet

Depth to Bottom (DTB): 45.58 feet

Water Column Thickness (WCT): 12.78 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.1 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 6.3 gallons

Actual Amount Purged/Bailed: 6.3 gallons

Purged with: Disposable Bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling: 32.80 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1133	14.8	5.55	237.5	25.7	HS
2.1	1140	14.9	5.63	194.2	65.0	HS
4.2	1145	14.8	5.60	-	>1000	HS
6.3	1151	14.9	5.64	-	>1000	HS
Before Sampling	1415	15.5	5.38	232	17.41	HS

Comments (weather conditions, odor, color, silt, etc.): The weather was sunny with temperatures in the 60s on 12/9/15.

Dissolved CO2: 235 mg/L

Signature: [signature] **Date:** 12-9-15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 12/9/15

JOYCE ENGINEERING

GROUND WATER SAMPLING LOG

Project Name: Burke County- Johns River **Project No. /Task No.:** 00277.1601.12.02

Well ID: MW-38 **Sampler(s):** H. Seaton / G. Eller

Well Location: Proposed Expansion Area, South of PZ-36

Well Diameter: 2 inches

Initial Depth to Water (DTW): 41.52 feet

Depth to Bottom (DTB): 74.50 feet

Water Column Thickness (WCT): 32.98 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 5.4 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 16.2 gallons

Actual Amount Purged/Bailed: 16.2 gallons

Purged with: Disposable Bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling: - feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1213	14.9	5.74	352.5	12.41	HS
5.4	1222	15.1	5.91	365.7	117	HS
10.8	1234	15.4	6.10	496.4	59.6	HS
16.2	1247	15.4	6.36	437.2	148	HS
Before Sampling	1430	15.6	6.19	493.0	7.71	HS

Comments (weather conditions, odor, color, silt, etc.): The weather was sunny with temperatures in the 60s on 12/9/15.

Signature: [signature] **Date:** 12-9-15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 12/9/15

JOYCE ENGINEERING

GROUND WATER SAMPLING LOG

Project Name: Burke County- Johns River **Project No. /Task No.:** 00277.1601.12.02

Well ID: PZ-12 **Sampler(s):** H. Seaton / G. Eller

Well Location: Proposed expansion area, West of PZ- 16S & -16D

Well Diameter:	2	inches
Initial Depth to Water (DTW):	7.95	feet
Depth to Bottom (DTB):	14.90	feet
Water Column Thickness (WCT):	6.95	feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well:	WCT X 0.163	=	1.1	gallons
For 4" Well:	WCT X 0.653	=		gallons
For THREE Well Volumes:	WV X 3	=	3.3	gallons

Actual Amount Purged/Bailed: 1.5 gallons

Purged with: Disposable bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling: - feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1029	12.1	5.38	34	10.32	GE
1.1	1030	13.1	5.11	31	54.0	GE
Dry @ 1.5						
Before Sample	1050	11.7	5.14	27	33.6	GE

Comments (weather conditions, odor, color, silt, etc.): The weather was sunny with temperatures in the 60s on 12/9/15.

Dissolved CO2: 25 mg/L

Signature: [signature] **Date:** 12/9/15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 12/8/15

JOYCE ENGINEERING

GROUND WATER SAMPLING LOG

Project Name: Burke County- Johns River **Project No. /Task No.:** 00277.1601.12.02

Well ID: PZ-30s **Sampler(s):** H. Seaton / G. Eller

Well Location: Proposed expansion area, South of MW-36

Well Diameter: 2 inches

Initial Depth to Water (DTW): 43.35 feet

Depth to Bottom (DTB): 55.30 feet

Water Column Thickness (WCT): 11.95 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.0 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 6.0 gallons

Actual Amount Purged/Bailed: 6.0 gallons

Purged with: Disposable Bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling: 43.10 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	0924	14.0	5.53	29	12.5	HS
2.0	0930	15.0	5.28	26	>1000	HS
4.0	0934	15.3	5.26	27	>1000	HS
6.0	0938	14.8	5.14	28	>1000	HS
Before Sample	1515	15.5	5.47	30	7.55	HS

Comments (weather conditions, odor, color, silt, etc.): The weather was sunny with temperatures in the 60s on 12/8/15.

CO2: 10 mg/L

Signature: [signature] **Date:** 12-8-15

QA/QC Sign Off: [signature] **Date:** 1/4/16

Revised 12/30/05

DATE: 12/8/15

JOYCE ENGINEERING

GROUND WATER SAMPLING LOG

Project Name: Burke County- Johns River **Project No. /Task No.:** 00277.1601.12.01

Well ID: PZ-31 **Sampler(s):** H. Seaton / G. Eller

Well Location: Borrow pit area

Well Diameter: 2 inches

Initial Depth to Water (DTW): 31.11 feet

Depth to Bottom (DTB): 45.60 feet

Water Column Thickness (WCT): 14.49 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.4 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 7.2 gallons

Actual Amount Purged/Bailed: 7.2 gallons

Purged with: Disposable Bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling: 30.40 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	0948	15.1	5.51	24	8.75	HS
2.4	0951	15.3	5.33	24	8.65	HS
4.8	0954	15.4	5.43	26	>1000	HS
7.2	0957	15.4	5.63	35	>1000	HS
Before Sampling	1523	15.4	5.69	29	8.25	HS

Comments (weather conditions, odor, color, silt, etc.): The weather was sunny with temperatures in the 60s on 12/8/15.

Dissolved CO2: 5 mg/L

Signature: [signature] **Date:** 12-8-15

QA/QC Sign Off: [signature] **Date:** 1/6/14

DATE: 12/9/15

JOYCE ENGINEERING

GROUND WATER SAMPLING LOG

Project Name: Burke County- Johns River **Project No. /Task No.:** 00277.1601.12.02

Well ID: PZ-35 **Sampler(s):** H. Seaton / G. Eller

Well Location: Proposed expansion area, downhill from PZ-34 and sed. pond

Well Diameter: 2 inches

Initial Depth to Water (DTW): 21.55 feet

Depth to Bottom (DTB): 39.05 feet

Water Column Thickness (WCT): 17.50 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.8 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 8.4 gallons

Actual Amount Purged/Bailed: 8.4 gallons

Purged with: Disposable Bailer

Sampled with: Disposable Bailer

Depth to Water before Sampling: 21.5 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1333	16.2	5.65	33	21.3	GE
2.8	1337	15.8	5.37	27	762	GE
5.6	1341	15.7	5.32	26	>1000	GE
8.4	1344	15.7	5.32	26	>1000	GE
Before Sampling	1445	15.9	5.42	29	25.1	GE

Comments (weather conditions, odor, color, silt, etc.): The weather was sunny with temperatures in the 60s on 12/9/15.

Dissolved CO2: 10 mg/L

Signature: [signature] **Date:** 12/9/15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 12/9/15

JOYCE ENGINEERING

SURFACE WATER MONITORING LOG

Project Name: Burke County- Johns River **Project/Task No.:** 00277.1601.12.02

Surface Point ID: SMP-5 **Sampler(s):** G. Eller / H. Seaton

Location: down road to river, right at fork in road beside barn

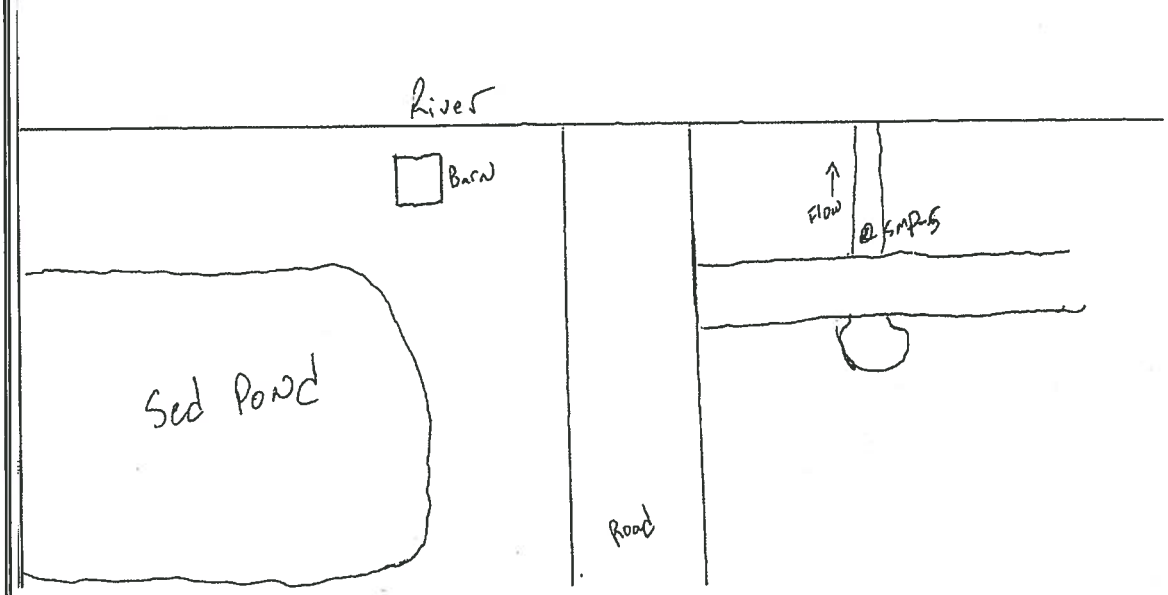
Field Parameters:

Time of Sampling:	1143	
pH:	5.93	
Temperature:	8.0	(°C)
Conductivity:	59	(µS)
Turbidity:	6.61	(ntu)

Comments/Sample Description (weather conditions, odor, color, silt, etc.):

The weather was sunny with temperatures in the 60s on 12/9/15.
FIELD BLANK @ 1530

Sketch of Sample Location (include flow direction, drainage pathways, etc.):



Signature: [signature] **Date:** 12-9-15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 12/9/15

JOYCE ENGINEERING

SURFACE WATER MONITORING LOG

Project Name: Burke County- Johns River **Project/Task No.:** 00277.1601.12.02

Surface Point ID: SMP-6 **Sampler(s):** G. Eller/ H. Seaton

Location: down hill from between MW-12 & MW-13 to stream

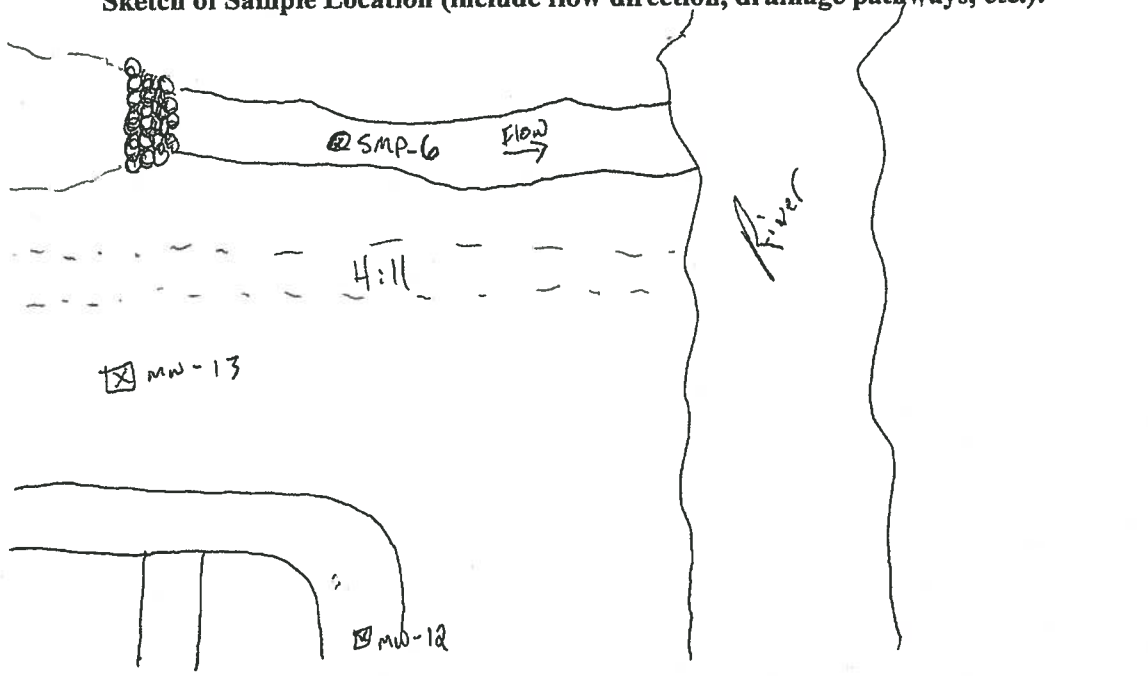
Field Parameters:

Time of Sampling:	0950	
pH:	6.18	
Temperature:	6.3	(°C)
Conductivity:	39	(µS)
Turbidity:	6.07	(ntu)

Comments/Sample Description (weather conditions, odor, color, silt, etc.):

The weather was sunny with temperatures in the 60s on 12/9/15.

Sketch of Sample Location (include flow direction, drainage pathways, etc.):



Signature: [signature] **Date:** 12-9-15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 12/9/15

JOYCE ENGINEERING

SURFACE WATER MONITORING LOG

Project Name: Burke County- Johns River **Project/Task No.:** 00277.1601.12.02

Surface Point ID: SMP-6 **Sampler(s):** G. Eller/ H. Seaton

Location: down hill from between MW-12 & MW-13 to stream

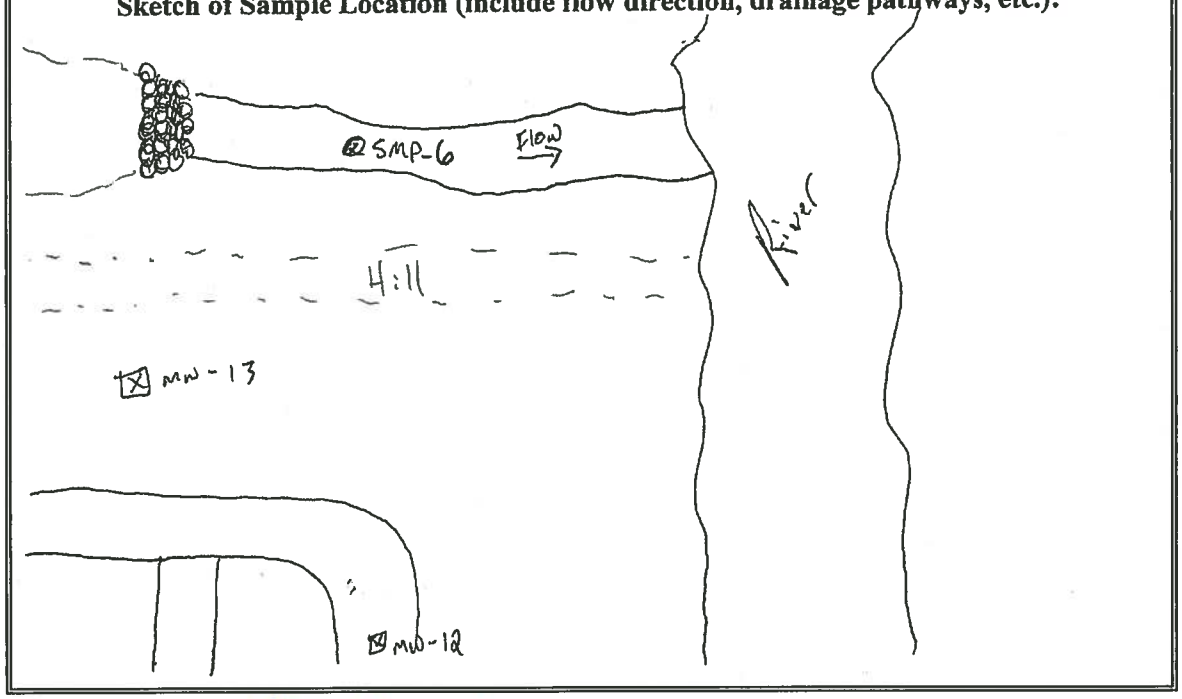
Field Parameters:

Time of Sampling:	0950	
pH:	6.18	
Temperature:	6.3	(°C)
Conductivity:	39	(µS)
Turbidity:	6.07	(ntu)

Comments/Sample Description (weather conditions, odor, color, silt, etc.):

The weather was sunny with temperatures in the 60s on 12/9/15.

Sketch of Sample Location (include flow direction, drainage pathways, etc.):



Signature: [signature] **Date:** 12-9-15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 12/9/15

JOYCE ENGINEERING

SURFACE WATER MONITORING LOG

Project Name: Burke County- Johns River **Project/Task No.:** 00277.1601.12.02

Surface Point ID: SMP-7 **Sampler(s):** G. Eller/ H. Seaton

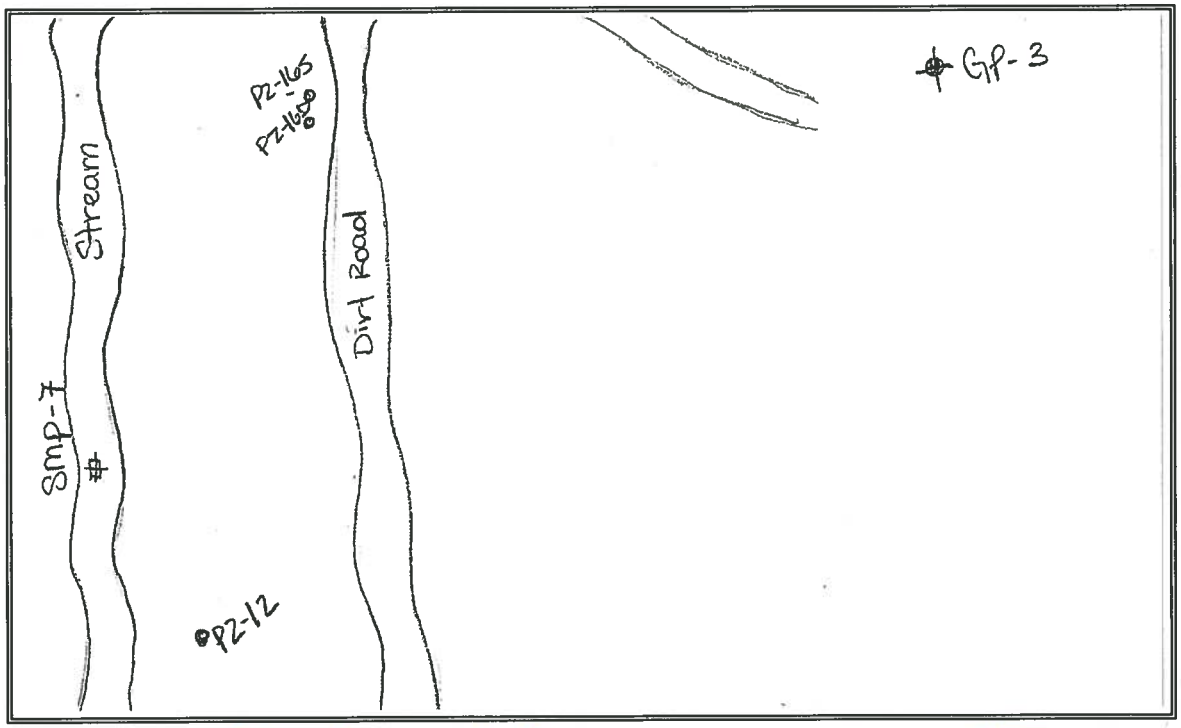
Location: Upstream from PZ-12

Field Parameters:

Time of Sampling:	1034	
pH:	5.46	
Temperature:	8.5	(°C)
Conductivity:	38	(µS)
Turbidity:	4.33	(ntu)

Comments/Sample Description (weather conditions, odor, color, silt, etc.):

The weather was sunny with temperatures in the 60s on 12/9/15.



Signature: [signature] **Date:** 12-9-15

QA/QC Sign Off: [signature] **Date:** 1/6/16

DATE: 2-4-16

JOYCE ENGINEERING

Development and GROUND WATER SAMPLING LOG

Project Name: John's River, Burke Co **Project No./Task No.:** 277.1601.12.01

Well ID: MW-22S RESAMPLE **Sampler(s):** G. Eller

Well Location: In the woods on the edge of the new C&D cell

Well Diameter: 2 inches

Initial Depth to Water (DTW): 17.89 feet

Depth to Bottom (DTB): 26.10 feet

Water Column Thickness (WCT): 8.21 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.3 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 3.9 gallons

Actual Amount Purged/Bailed: 3.9 gallons

Purged with: Disposable bailer

Sampled with: Disposable bailer

Depth to Water before Sampling: 18.47 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1125	15.2	5.74	19.9	10.1	GE
1.3	1128	15.2	5.36	17.7	156	GE
2.6	1130	15.1	5.29	16.7	182	GE
3.9	1133	15.0	5.10	17.6	175	GE
Before Sampling	1342	15.0	5.93	24.3	16.3	GE

Comments (weather conditions, odor, color, silt, etc.): The weather was partly cloudy with temperatures in the 40s on 2-4-16.

Field Blank @ 1355

Signature: [signature] **Date:** 2-4-16

QA/QC Sign Off: [signature] **Date:** 2/5/16

Appendix B

Laboratory Analytical Reports

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

December 22, 2015

Mr. Van Burbach
Joyce Engineering-Greensboro
2211 West Meadowview Rd
Boone Bldg, Suite 101
Greensboro, NC 27407

RE: Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Dear Mr. Burbach:
Enclosed are the analytical results for sample(s) received by the laboratory on December 10, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

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

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Alex Everhart, Joyce Engineering-NC

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without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92279397001	**1203-MW20**	Water	12/08/15 15:30	12/10/15 10:48
92279397002	**1203-MW22S**	Water	12/09/15 15:00	12/10/15 10:48
92279397003	**1203-MW38**	Water	12/09/15 14:30	12/10/15 10:48

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92279397001	**1203-MW20**	EPA 6010	CDF	17	PASI-A
		EPA 7470	HVK	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	MJP	1	PASI-A
		EPA 300.0	MDW	1	PASI-A
		SM 4500-Cl-E	WRC	1	PASI-A
92279397002	**1203-MW22S**	EPA 6010	CDF	17	PASI-A
		EPA 7470	HVK	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	SAM	1	PASI-A
		EPA 300.0	MDW	1	PASI-A
		SM 4500-Cl-E	WRC	1	PASI-A
92279397003	**1203-MW38**	EPA 6010	CDF	17	PASI-A
		EPA 7470	HVK	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	SAM	1	PASI-A
		EPA 300.0	MDW	1	PASI-A
		SM 4500-Cl-E	WRC	1	PASI-A

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SUMMARY OF DETECTION

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92279397001	**1203-MW20**					
EPA 6010	Barium	67.3J	ug/L	100	12/17/15 03:41	
EPA 6010	Chromium	4.7J	ug/L	10.0	12/17/15 03:41	
EPA 6010	Copper	3.9J	ug/L	10.0	12/17/15 03:41	
EPA 6010	Iron	3590	ug/L	300	12/17/15 03:41	
EPA 6010	Lead	3.0J	ug/L	10.0	12/17/15 03:41	
EPA 6010	Manganese	68.5	ug/L	50.0	12/17/15 03:41	
EPA 6010	Nickel	2.5J	ug/L	50.0	12/17/15 03:41	
EPA 6010	Vanadium	6.9J	ug/L	25.0	12/17/15 03:41	
EPA 6010	Zinc	10.3	ug/L	10.0	12/17/15 03:41	
SM 2320B	Alkalinity, Total as CaCO3	8280	ug/L	5000	12/14/15 23:43	
SM 2540C	Total Dissolved Solids	31000	ug/L	25000	12/11/15 10:44	
SM 4500-Cl-E	Chloride	1840	ug/L	1000	12/18/15 17:57	
92279397002	**1203-MW22S**					
EPA 6010	Arsenic	12.7	ug/L	10.0	12/17/15 03:44	
EPA 6010	Barium	1110	ug/L	100	12/17/15 03:44	
EPA 6010	Beryllium	3.4	ug/L	1.0	12/17/15 03:44	
EPA 6010	Chromium	16.8	ug/L	10.0	12/17/15 03:44	
EPA 6010	Cobalt	11.2	ug/L	10.0	12/17/15 03:44	
EPA 6010	Copper	30.0	ug/L	10.0	12/17/15 03:44	
EPA 6010	Iron	29700	ug/L	300	12/17/15 03:44	
EPA 6010	Lead	39.4	ug/L	10.0	12/17/15 03:44	
EPA 6010	Manganese	462	ug/L	50.0	12/17/15 03:44	
EPA 6010	Nickel	18.7J	ug/L	50.0	12/17/15 03:44	
EPA 6010	Vanadium	44.8	ug/L	25.0	12/17/15 03:44	
EPA 6010	Zinc	127	ug/L	10.0	12/17/15 03:44	
SM 2320B	Alkalinity, Total as CaCO3	6670	ug/L	5000	12/20/15 22:14	
SM 2540C	Total Dissolved Solids	96000	ug/L	50000	12/14/15 08:31	
SM 4500-Cl-E	Chloride	4200	ug/L	1000	12/18/15 17:58	
92279397003	**1203-MW38**					
EPA 6010	Arsenic	4.9J	ug/L	10.0	12/17/15 03:47	
EPA 6010	Barium	83.5J	ug/L	100	12/17/15 03:47	
EPA 6010	Cobalt	4.1J	ug/L	10.0	12/17/15 03:47	
EPA 6010	Copper	3.3J	ug/L	10.0	12/17/15 03:47	
EPA 6010	Iron	27800	ug/L	300	12/17/15 03:47	
EPA 6010	Lead	3.2J	ug/L	10.0	12/17/15 03:47	
EPA 6010	Manganese	3220	ug/L	50.0	12/17/15 03:47	
EPA 6010	Nickel	3.0J	ug/L	50.0	12/17/15 03:47	
EPA 6010	Vanadium	8.5J	ug/L	25.0	12/17/15 03:47	
EPA 6010	Zinc	8.7J	ug/L	10.0	12/17/15 03:47	
EPA 8260	Benzene	4.4	ug/L	1.0	12/20/15 23:03	
EPA 8260	Chlorobenzene	0.49J	ug/L	3.0	12/20/15 23:03	
EPA 8260	1,4-Dichlorobenzene	12.2	ug/L	1.0	12/20/15 23:03	
EPA 8260	1,1-Dichloroethane	7.2	ug/L	5.0	12/20/15 23:03	
EPA 8260	1,2-Dichloroethane	0.70J	ug/L	1.0	12/20/15 23:03	
EPA 8260	cis-1,2-Dichloroethene	14.7	ug/L	5.0	12/20/15 23:03	
EPA 8260	Tetrahydrofuran	39.1	ug/L	10.0	12/20/15 23:03	

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SUMMARY OF DETECTION

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92279397003	**1203-MW38**					
EPA 8260	Trichloroethene	2.1	ug/L	1.0	12/20/15 23:03	
EPA 8260	Xylene (Total)	1.6J	ug/L	5.0	12/20/15 23:03	
SM 2320B	Alkalinity, Total as CaCO3	234000	ug/L	5000	12/20/15 22:23	
SM 2540C	Total Dissolved Solids	311000	ug/L	25000	12/14/15 08:31	
EPA 300.0	Sulfate	4640J	ug/L	250000	12/11/15 14:06	
SM 4500-Cl-E	Chloride	4390	ug/L	1000	12/18/15 17:58	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Sample: 1203-MW20 **Lab ID: 92279397001** Collected: 12/08/15 15:30 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010A								
Antimony	ND	ug/L	6.0	3.8	1	12/12/15 00:00	12/17/15 03:41	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:41	7440-38-2	
Barium	**67.3J**	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 03:41	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 03:41	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 03:41	7440-43-9	
Chromium	**4.7J**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:41	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:41	7440-48-4	
Copper	**3.9J**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:41	7440-50-8	
Iron	**3590**	ug/L	300	25.0	1	12/12/15 00:00	12/17/15 03:41	7439-89-6	
Lead	**3.0J**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:41	7439-92-1	
Manganese	**68.5**	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 03:41	7439-96-5	
Nickel	**2.5J**	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 03:41	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 03:41	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:41	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	12/12/15 00:00	12/17/15 03:41	7440-28-0	
Vanadium	**6.9J**	ug/L	25.0	2.5	1	12/12/15 00:00	12/17/15 03:41	7440-62-2	
Zinc	**10.3**	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 03:41	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.10	1	12/17/15 16:15	12/19/15 14:43	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		12/19/15 15:57	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		12/19/15 15:57	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		12/19/15 15:57	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		12/19/15 15:57	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		12/19/15 15:57	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		12/19/15 15:57	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		12/19/15 15:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		12/19/15 15:57	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		12/19/15 15:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		12/19/15 15:57	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		12/19/15 15:57	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		12/19/15 15:57	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		12/19/15 15:57	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		12/19/15 15:57	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		12/19/15 15:57	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		12/19/15 15:57	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		12/19/15 15:57	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		12/19/15 15:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		12/19/15 15:57	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/19/15 15:57	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		12/19/15 15:57	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/19/15 15:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/19/15 15:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		12/19/15 15:57	75-35-4	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Sample: 1203-MW20 **Lab ID: 92279397001** Collected: 12/08/15 15:30 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		12/19/15 15:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		12/19/15 15:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		12/19/15 15:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		12/19/15 15:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		12/19/15 15:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/19/15 15:57	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		12/19/15 15:57	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		12/19/15 15:57	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/19/15 15:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		12/19/15 15:57	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		12/19/15 15:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		12/19/15 15:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		12/19/15 15:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/19/15 15:57	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	3.1	1		12/19/15 15:57	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		12/19/15 15:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		12/19/15 15:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		12/19/15 15:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/19/15 15:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		12/19/15 15:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		12/19/15 15:57	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		12/19/15 15:57	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/19/15 15:57	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		12/19/15 15:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		12/19/15 15:57	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		12/19/15 15:57	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		12/19/15 15:57	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**8280**	ug/L	5000	1000	1		12/14/15 23:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**31000**	ug/L	25000	25000	1		12/11/15 10:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	ND	ug/L	250000	1000	1		12/11/15 14:06	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E								
Chloride	**1840**	ug/L	1000	500	1		12/18/15 17:57	16887-00-6	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Sample: 1203-MW22S **Lab ID: 92279397002** Collected: 12/09/15 15:00 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010A								
Antimony	ND	ug/L	6.0	3.8	1	12/12/15 00:00	12/17/15 03:44	7440-36-0	
Arsenic	**12.7**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:44	7440-38-2	
Barium	**1110**	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 03:44	7440-39-3	
Beryllium	**3.4**	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 03:44	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 03:44	7440-43-9	
Chromium	**16.8**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:44	7440-47-3	
Cobalt	**11.2**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:44	7440-48-4	
Copper	**30.0**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:44	7440-50-8	
Iron	**29700**	ug/L	300	25.0	1	12/12/15 00:00	12/17/15 03:44	7439-89-6	
Lead	**39.4**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:44	7439-92-1	
Manganese	**462**	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 03:44	7439-96-5	
Nickel	**18.7J**	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 03:44	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 03:44	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:44	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	12/12/15 00:00	12/17/15 03:44	7440-28-0	
Vanadium	**44.8**	ug/L	25.0	2.5	1	12/12/15 00:00	12/17/15 03:44	7440-62-2	
Zinc	**127**	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 03:44	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.10	1	12/17/15 16:15	12/19/15 14:45	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		12/20/15 22:46	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		12/20/15 22:46	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		12/20/15 22:46	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		12/20/15 22:46	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		12/20/15 22:46	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		12/20/15 22:46	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		12/20/15 22:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		12/20/15 22:46	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		12/20/15 22:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		12/20/15 22:46	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		12/20/15 22:46	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		12/20/15 22:46	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		12/20/15 22:46	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		12/20/15 22:46	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		12/20/15 22:46	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		12/20/15 22:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		12/20/15 22:46	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		12/20/15 22:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		12/20/15 22:46	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/20/15 22:46	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		12/20/15 22:46	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/20/15 22:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/20/15 22:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		12/20/15 22:46	75-35-4	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Sample: 1203-MW22S **Lab ID: 92279397002** Collected: 12/09/15 15:00 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		12/20/15 22:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		12/20/15 22:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		12/20/15 22:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		12/20/15 22:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		12/20/15 22:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/20/15 22:46	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		12/20/15 22:46	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		12/20/15 22:46	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/20/15 22:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		12/20/15 22:46	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		12/20/15 22:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		12/20/15 22:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		12/20/15 22:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/20/15 22:46	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	3.1	1		12/20/15 22:46	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		12/20/15 22:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		12/20/15 22:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		12/20/15 22:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/20/15 22:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		12/20/15 22:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		12/20/15 22:46	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		12/20/15 22:46	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/20/15 22:46	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		12/20/15 22:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		12/20/15 22:46	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		12/20/15 22:46	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		12/20/15 22:46	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**6670**	ug/L	5000	1000	1		12/20/15 22:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**96000**	ug/L	50000	50000	1		12/14/15 08:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	ND	ug/L	250000	1000	1		12/11/15 14:06	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E								
Chloride	**4200**	ug/L	1000	500	1		12/18/15 17:58	16887-00-6	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Sample: 1203-MW38 **Lab ID: 92279397003** Collected: 12/09/15 14:30 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010A								
Antimony	ND	ug/L	6.0	3.8	1	12/12/15 00:00	12/17/15 03:47	7440-36-0	
Arsenic	**4.9J**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:47	7440-38-2	
Barium	**83.5J**	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 03:47	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 03:47	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 03:47	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:47	7440-47-3	
Cobalt	**4.1J**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:47	7440-48-4	
Copper	**3.3J**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:47	7440-50-8	
Iron	**27800**	ug/L	300	25.0	1	12/12/15 00:00	12/17/15 03:47	7439-89-6	
Lead	**3.2J**	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:47	7439-92-1	
Manganese	**3220**	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 03:47	7439-96-5	
Nickel	**3.0J**	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 03:47	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 03:47	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 03:47	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	12/12/15 00:00	12/17/15 03:47	7440-28-0	
Vanadium	**8.5J**	ug/L	25.0	2.5	1	12/12/15 00:00	12/17/15 03:47	7440-62-2	
Zinc	**8.7J**	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 03:47	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.10	1	12/17/15 16:15	12/19/15 14:48	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		12/20/15 23:03	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		12/20/15 23:03	107-13-1	
Benzene	**4.4**	ug/L	1.0	0.25	1		12/20/15 23:03	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		12/20/15 23:03	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		12/20/15 23:03	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		12/20/15 23:03	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		12/20/15 23:03	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		12/20/15 23:03	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		12/20/15 23:03	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		12/20/15 23:03	56-23-5	
Chlorobenzene	**0.49J**	ug/L	3.0	0.23	1		12/20/15 23:03	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		12/20/15 23:03	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		12/20/15 23:03	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		12/20/15 23:03	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		12/20/15 23:03	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		12/20/15 23:03	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		12/20/15 23:03	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		12/20/15 23:03	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		12/20/15 23:03	95-50-1	
1,4-Dichlorobenzene	**12.2**	ug/L	1.0	0.33	1		12/20/15 23:03	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		12/20/15 23:03	110-57-6	
1,1-Dichloroethane	**7.2**	ug/L	5.0	0.32	1		12/20/15 23:03	75-34-3	
1,2-Dichloroethane	**0.70J**	ug/L	1.0	0.24	1		12/20/15 23:03	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		12/20/15 23:03	75-35-4	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Sample: 1203-MW38 **Lab ID: 92279397003** Collected: 12/09/15 14:30 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
cis-1,2-Dichloroethene	**14.7**	ug/L	5.0	0.19	1		12/20/15 23:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		12/20/15 23:03	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		12/20/15 23:03	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		12/20/15 23:03	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		12/20/15 23:03	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/20/15 23:03	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		12/20/15 23:03	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		12/20/15 23:03	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/20/15 23:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		12/20/15 23:03	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		12/20/15 23:03	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		12/20/15 23:03	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		12/20/15 23:03	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/20/15 23:03	127-18-4	
Tetrahydrofuran	**39.1**	ug/L	10.0	3.1	1		12/20/15 23:03	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		12/20/15 23:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		12/20/15 23:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		12/20/15 23:03	79-00-5	
Trichloroethene	**2.1**	ug/L	1.0	0.47	1		12/20/15 23:03	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		12/20/15 23:03	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		12/20/15 23:03	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		12/20/15 23:03	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/20/15 23:03	75-01-4	
Xylene (Total)	**1.6J**	ug/L	5.0	0.66	1		12/20/15 23:03	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		12/20/15 23:03	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		12/20/15 23:03	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		12/20/15 23:03	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**234000**	ug/L	5000	1000	1		12/20/15 22:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**311000**	ug/L	25000	25000	1		12/14/15 08:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**4640J**	ug/L	250000	1000	1		12/11/15 14:06	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E								
Chloride	**4390**	ug/L	1000	500	1		12/18/15 17:58	16887-00-6	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: MERP/8789 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 92279397001, 92279397002, 92279397003

METHOD BLANK: 1629752 Matrix: Water
Associated Lab Samples: 92279397001, 92279397002, 92279397003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.10	12/19/15 14:31	

LABORATORY CONTROL SAMPLE: 1629753

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1629754 1629755

Parameter	Units	92279395006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.5	2.4	100	96	75-125	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: MPRP/20262 Analysis Method: EPA 6010
QC Batch Method: EPA 3010A Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92279397001, 92279397002, 92279397003

METHOD BLANK: 1627237 Matrix: Water
Associated Lab Samples: 92279397001, 92279397002, 92279397003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	3.8	12/17/15 02:17	
Arsenic	ug/L	ND	10.0	2.5	12/17/15 02:17	
Barium	ug/L	ND	100	2.5	12/17/15 02:17	
Beryllium	ug/L	ND	1.0	0.50	12/17/15 02:17	
Cadmium	ug/L	ND	1.0	0.50	12/17/15 02:17	
Chromium	ug/L	ND	10.0	2.5	12/17/15 02:17	
Cobalt	ug/L	ND	10.0	2.5	12/17/15 02:17	
Copper	ug/L	ND	10.0	2.5	12/17/15 02:17	
Iron	ug/L	ND	300	25.0	12/17/15 02:17	
Lead	ug/L	ND	10.0	2.5	12/17/15 02:17	
Manganese	ug/L	ND	50.0	2.5	12/17/15 02:17	
Nickel	ug/L	ND	50.0	2.5	12/17/15 02:17	
Selenium	ug/L	ND	10.0	5.0	12/17/15 02:17	
Silver	ug/L	ND	10.0	2.5	12/17/15 02:17	
Thallium	ug/L	ND	5.5	5.0	12/17/15 02:17	
Vanadium	ug/L	ND	25.0	2.5	12/17/15 02:17	
Zinc	ug/L	ND	10.0	5.0	12/17/15 02:17	

LABORATORY CONTROL SAMPLE: 1627238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	587	117	80-120	
Arsenic	ug/L	500	523	105	80-120	
Barium	ug/L	500	532	106	80-120	
Beryllium	ug/L	500	525	105	80-120	
Cadmium	ug/L	500	542	108	80-120	
Chromium	ug/L	500	514	103	80-120	
Cobalt	ug/L	500	546	109	80-120	
Copper	ug/L	500	524	105	80-120	
Iron	ug/L	5000	5420	108	80-120	
Lead	ug/L	500	539	108	80-120	
Manganese	ug/L	500	562	112	80-120	
Nickel	ug/L	500	542	108	80-120	
Selenium	ug/L	500	541	108	80-120	
Silver	ug/L	250	275	110	80-120	
Thallium	ug/L	500	516	103	80-120	
Vanadium	ug/L	500	570	114	80-120	
Zinc	ug/L	500	550	110	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1627239 1627240

Parameter	Units	92279385001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	537	545	107	109	75-125	2	25	
Arsenic	ug/L	ND	500	500	479	490	95	98	75-125	2	25	
Barium	ug/L	109	500	500	605	608	99	100	75-125	0	25	
Beryllium	ug/L	ND	500	500	490	494	98	99	75-125	1	25	
Cadmium	ug/L	ND	500	500	496	504	99	101	75-125	2	25	
Chromium	ug/L	ND	500	500	471	478	94	95	75-125	1	25	
Cobalt	ug/L	52.0	500	500	555	560	101	102	75-125	1	25	
Copper	ug/L	7.9J	500	500	501	510	99	100	75-125	2	25	
Iron	ug/L	55800	5000	5000	62000	60000	124	85	75-125	3	25	
Lead	ug/L	4.6J	500	500	494	502	98	100	75-125	2	25	
Manganese	ug/L	3470	500	500	4060	3940	117	94	75-125	3	25	
Nickel	ug/L	2.6J	500	500	499	505	99	101	75-125	1	25	
Selenium	ug/L	ND	500	500	496	505	99	101	75-125	2	25	
Silver	ug/L	ND	250	250	255	258	102	103	75-125	1	25	
Thallium	ug/L	6.9	500	500	469	486	92	96	75-125	4	25	
Vanadium	ug/L	8.3J	500	500	541	544	107	107	75-125	1	25	
Zinc	ug/L	6.5J	500	500	517	520	102	103	75-125	0	25	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: MSV/34799
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92279397001

METHOD BLANK: 1633901
Matrix: Water
Associated Lab Samples: 92279397001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	0.33	12/19/15 13:25	
1,1,1-Trichloroethane	ug/L	ND	1.0	0.48	12/19/15 13:25	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	0.40	12/19/15 13:25	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.29	12/19/15 13:25	
1,1-Dichloroethane	ug/L	ND	5.0	0.32	12/19/15 13:25	
1,1-Dichloroethene	ug/L	ND	5.0	0.56	12/19/15 13:25	
1,2,3-Trichloropropane	ug/L	ND	1.0	0.41	12/19/15 13:25	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	2.0	12/19/15 13:25	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	0.27	12/19/15 13:25	
1,2-Dichlorobenzene	ug/L	ND	5.0	0.30	12/19/15 13:25	
1,2-Dichloroethane	ug/L	ND	1.0	0.24	12/19/15 13:25	
1,2-Dichloropropane	ug/L	ND	1.0	0.27	12/19/15 13:25	
1,4-Dichlorobenzene	ug/L	ND	1.0	0.33	12/19/15 13:25	
2-Butanone (MEK)	ug/L	ND	100	0.96	12/19/15 13:25	
2-Hexanone	ug/L	ND	50.0	0.46	12/19/15 13:25	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	0.33	12/19/15 13:25	
Acetone	ug/L	ND	100	10.0	12/19/15 13:25	
Acrylonitrile	ug/L	ND	200	1.9	12/19/15 13:25	
Benzene	ug/L	ND	1.0	0.25	12/19/15 13:25	
Bromochloromethane	ug/L	ND	3.0	0.17	12/19/15 13:25	
Bromodichloromethane	ug/L	ND	1.0	0.18	12/19/15 13:25	
Bromoform	ug/L	ND	3.0	0.26	12/19/15 13:25	
Bromomethane	ug/L	ND	10.0	0.29	12/19/15 13:25	
Carbon disulfide	ug/L	ND	100	1.2	12/19/15 13:25	
Carbon tetrachloride	ug/L	ND	1.0	0.25	12/19/15 13:25	
Chlorobenzene	ug/L	ND	3.0	0.23	12/19/15 13:25	
Chloroethane	ug/L	ND	10.0	0.54	12/19/15 13:25	
Chloroform	ug/L	ND	5.0	0.14	12/19/15 13:25	
Chloromethane	ug/L	ND	1.0	0.11	12/19/15 13:25	
cis-1,2-Dichloroethene	ug/L	ND	5.0	0.19	12/19/15 13:25	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	12/19/15 13:25	
Dibromochloromethane	ug/L	ND	3.0	0.21	12/19/15 13:25	
Dibromomethane	ug/L	ND	10.0	0.21	12/19/15 13:25	
Ethylbenzene	ug/L	ND	1.0	0.30	12/19/15 13:25	
Iodomethane	ug/L	ND	10.0	0.32	12/19/15 13:25	
Methylene Chloride	ug/L	ND	1.0	0.97	12/19/15 13:25	
Styrene	ug/L	ND	1.0	0.26	12/19/15 13:25	
Tetrachloroethene	ug/L	ND	1.0	0.46	12/19/15 13:25	
Tetrahydrofuran	ug/L	ND	10.0	3.1	12/19/15 13:25	
Toluene	ug/L	ND	1.0	0.26	12/19/15 13:25	
trans-1,2-Dichloroethene	ug/L	ND	5.0	0.49	12/19/15 13:25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

METHOD BLANK: 1633901 Matrix: Water
Associated Lab Samples: 92279397001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.26	12/19/15 13:25	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	1.0	12/19/15 13:25	
Trichloroethene	ug/L	ND	1.0	0.47	12/19/15 13:25	
Trichlorofluoromethane	ug/L	ND	1.0	0.20	12/19/15 13:25	
Vinyl acetate	ug/L	ND	50.0	0.35	12/19/15 13:25	
Vinyl chloride	ug/L	ND	1.0	0.62	12/19/15 13:25	
Xylene (Total)	ug/L	ND	5.0	0.66	12/19/15 13:25	
1,2-Dichloroethane-d4 (S)	%	102	70-130		12/19/15 13:25	
4-Bromofluorobenzene (S)	%	102	70-130		12/19/15 13:25	
Toluene-d8 (S)	%	110	70-130		12/19/15 13:25	

LABORATORY CONTROL SAMPLE: 1633902

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	52.6	105	80-125	
1,1,1-Trichloroethane	ug/L	50	55.2	110	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	52.8	106	79-124	
1,1,2-Trichloroethane	ug/L	50	53.5	107	85-125	
1,1-Dichloroethane	ug/L	50	49.3	99	73-126	
1,1-Dichloroethene	ug/L	50	54.2	108	66-135	
1,2,3-Trichloropropane	ug/L	50	50.9	102	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	50.9	102	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	55.6	111	83-124	
1,2-Dichlorobenzene	ug/L	50	51.6	103	80-133	
1,2-Dichloroethane	ug/L	50	50.1	100	67-128	
1,2-Dichloropropane	ug/L	50	49.0	98	75-132	
1,4-Dichlorobenzene	ug/L	50	53.0	106	78-130	
2-Butanone (MEK)	ug/L	100	109	109	61-144	
2-Hexanone	ug/L	100	104	104	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.9J	100	72-135	
Acetone	ug/L	100	107	107	48-146	
Acrylonitrile	ug/L	250	263	105	40-160	
Benzene	ug/L	50	52.1	104	80-125	
Bromochloromethane	ug/L	50	59.3	119	71-125	
Bromodichloromethane	ug/L	50	54.5	109	78-124	
Bromoform	ug/L	50	44.1	88	71-128	
Bromomethane	ug/L	50	45.4	91	40-160	
Carbon disulfide	ug/L	50	55.0J	110	50-160	
Carbon tetrachloride	ug/L	50	53.3	107	69-131	
Chlorobenzene	ug/L	50	53.9	108	81-122	
Chloroethane	ug/L	50	48.3	97	39-148	
Chloroform	ug/L	50	55.3	111	73-127	
Chloromethane	ug/L	50	55.9	112	44-146	
cis-1,2-Dichloroethene	ug/L	50	51.5	103	74-124	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

LABORATORY CONTROL SAMPLE: 1633902

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,3-Dichloropropene	ug/L	50	56.5	113	72-132	
Dibromochloromethane	ug/L	50	54.5	109	78-125	
Dibromomethane	ug/L	50	53.2	106	82-120	
Ethylbenzene	ug/L	50	52.9	106	79-121	
Iodomethane	ug/L	100	88.7	89	39-154	
Methylene Chloride	ug/L	50	59.2	118	64-133	
Styrene	ug/L	50	53.2	106	84-126	
Tetrachloroethene	ug/L	50	53.6	107	78-122	
Tetrahydrofuran	ug/L	500	549	110	69-148	
Toluene	ug/L	50	49.9	100	80-121	
trans-1,2-Dichloroethene	ug/L	50	51.5	103	71-127	
trans-1,3-Dichloropropene	ug/L	50	52.1	104	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	54.8J	110	40-160	
Trichloroethene	ug/L	50	55.3	111	78-122	
Trichlorofluoromethane	ug/L	50	50.8	102	53-137	
Vinyl acetate	ug/L	100	104	104	40-160	
Vinyl chloride	ug/L	50	55.3	111	58-137	
Xylene (Total)	ug/L	150	158	106	81-126	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE SAMPLE: 1633904

Parameter	Units	92279300003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	15.4	77	70-130	
1,1,1-Trichloroethane	ug/L	ND	20	19.8	99	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	16.8	84	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	16.8	84	70-130	
1,1-Dichloroethane	ug/L	ND	20	19.4	97	70-130	
1,1-Dichloroethene	ug/L	ND	20	18.9	94	70-166	
1,2,3-Trichloropropane	ug/L	ND	20	17.6	88	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	15.8	79	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	16.5	82	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	17.6	88	70-130	
1,2-Dichloroethane	ug/L	ND	20	17.4	87	70-130	
1,2-Dichloropropane	ug/L	ND	20	17.6	88	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	17.2	86	70-130	
2-Butanone (MEK)	ug/L	ND	40	36.4J	91	70-130	
2-Hexanone	ug/L	ND	40	33.6J	84	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	36.3J	91	70-130	
Acetone	ug/L	ND	40	39.6J	99	70-130	
Acrylonitrile	ug/L	ND	100	95.0J	95	70-130	
Benzene	ug/L	ND	20	18.6	93	70-148	
Bromochloromethane	ug/L	ND	20	22.4	112	70-130	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

MATRIX SPIKE SAMPLE: 1633904

Parameter	Units	92279300003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	ND	20	17.5	87	70-130	
Bromoform	ug/L	ND	20	15.4	77	70-130	
Bromomethane	ug/L	ND	20	16.9	84	70-130	
Carbon disulfide	ug/L	ND	20	19.8J	99	70-130	
Carbon tetrachloride	ug/L	ND	20	18.3	91	70-130	
Chlorobenzene	ug/L	ND	20	18.1	90	70-146	
Chloroethane	ug/L	ND	20	16.2	81	70-130	
Chloroform	ug/L	ND	20	19.8	99	70-130	
Chloromethane	ug/L	ND	20	23.0	115	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	18.7	94	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	17.4	87	70-130	
Dibromochloromethane	ug/L	ND	20	15.3	77	70-130	
Dibromomethane	ug/L	ND	20	19.7	98	70-130	
Ethylbenzene	ug/L	ND	20	17.5	87	70-130	
Iodomethane	ug/L	ND	40	28.3	71	70-130	
Methylene Chloride	ug/L	ND	20	20.8	104	70-130	
Styrene	ug/L	ND	20	17.2	86	70-130	
Tetrachloroethene	ug/L	ND	20	16.9	85	70-130	
Tetrahydrofuran	ug/L	ND	200	186	93	70-130	
Toluene	ug/L	ND	20	19.2	96	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	20.0	100	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	15.6	78	70-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	20	16.1J	81	70-130	
Trichloroethene	ug/L	ND	20	18.1	91	69-151	
Trichlorofluoromethane	ug/L	ND	20	17.4	87	70-130	
Vinyl acetate	ug/L	ND	40	28.9J	72	70-130	
Vinyl chloride	ug/L	ND	20	20.3	102	70-130	
1,2-Dichloroethane-d4 (S)	%				109	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				107	70-130	

SAMPLE DUPLICATE: 1633903

Parameter	Units	92279300002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

SAMPLE DUPLICATE: 1633903

Parameter	Units	92279300002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Acrylonitrile	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon disulfide	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Iodomethane	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Tetrahydrofuran	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	95	98	3		
4-Bromofluorobenzene (S)	%	104	106	1		
Toluene-d8 (S)	%	111	109	2		

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: MSV/34820 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92279397002, 92279397003

METHOD BLANK: 1634031 Matrix: Water
Associated Lab Samples: 92279397002, 92279397003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	0.33	12/20/15 18:49	
1,1,1-Trichloroethane	ug/L	ND	1.0	0.48	12/20/15 18:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	0.40	12/20/15 18:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.29	12/20/15 18:49	
1,1-Dichloroethane	ug/L	ND	5.0	0.32	12/20/15 18:49	
1,1-Dichloroethene	ug/L	ND	5.0	0.56	12/20/15 18:49	
1,2,3-Trichloropropane	ug/L	ND	1.0	0.41	12/20/15 18:49	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	2.0	12/20/15 18:49	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	0.27	12/20/15 18:49	
1,2-Dichlorobenzene	ug/L	ND	5.0	0.30	12/20/15 18:49	
1,2-Dichloroethane	ug/L	ND	1.0	0.24	12/20/15 18:49	
1,2-Dichloropropane	ug/L	ND	1.0	0.27	12/20/15 18:49	
1,4-Dichlorobenzene	ug/L	ND	1.0	0.33	12/20/15 18:49	
2-Butanone (MEK)	ug/L	ND	100	0.96	12/20/15 18:49	
2-Hexanone	ug/L	ND	50.0	0.46	12/20/15 18:49	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	0.33	12/20/15 18:49	
Acetone	ug/L	ND	100	10.0	12/20/15 18:49	
Acrylonitrile	ug/L	ND	200	1.9	12/20/15 18:49	
Benzene	ug/L	ND	1.0	0.25	12/20/15 18:49	
Bromochloromethane	ug/L	ND	3.0	0.17	12/20/15 18:49	
Bromodichloromethane	ug/L	ND	1.0	0.18	12/20/15 18:49	
Bromoform	ug/L	ND	3.0	0.26	12/20/15 18:49	
Bromomethane	ug/L	ND	10.0	0.29	12/20/15 18:49	
Carbon disulfide	ug/L	ND	100	1.2	12/20/15 18:49	
Carbon tetrachloride	ug/L	ND	1.0	0.25	12/20/15 18:49	
Chlorobenzene	ug/L	ND	3.0	0.23	12/20/15 18:49	
Chloroethane	ug/L	ND	10.0	0.54	12/20/15 18:49	
Chloroform	ug/L	ND	5.0	0.14	12/20/15 18:49	
Chloromethane	ug/L	ND	1.0	0.11	12/20/15 18:49	
cis-1,2-Dichloroethene	ug/L	ND	5.0	0.19	12/20/15 18:49	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	12/20/15 18:49	
Dibromochloromethane	ug/L	ND	3.0	0.21	12/20/15 18:49	
Dibromomethane	ug/L	ND	10.0	0.21	12/20/15 18:49	
Ethylbenzene	ug/L	ND	1.0	0.30	12/20/15 18:49	
Iodomethane	ug/L	ND	10.0	0.32	12/20/15 18:49	
Methylene Chloride	ug/L	ND	1.0	0.97	12/20/15 18:49	
Styrene	ug/L	ND	1.0	0.26	12/20/15 18:49	
Tetrachloroethene	ug/L	ND	1.0	0.46	12/20/15 18:49	
Tetrahydrofuran	ug/L	ND	10.0	3.1	12/20/15 18:49	
Toluene	ug/L	ND	1.0	0.26	12/20/15 18:49	
trans-1,2-Dichloroethene	ug/L	ND	5.0	0.49	12/20/15 18:49	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

METHOD BLANK: 1634031 Matrix: Water
Associated Lab Samples: 92279397002, 92279397003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.26	12/20/15 18:49	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	1.0	12/20/15 18:49	
Trichloroethene	ug/L	ND	1.0	0.47	12/20/15 18:49	
Trichlorofluoromethane	ug/L	ND	1.0	0.20	12/20/15 18:49	
Vinyl acetate	ug/L	ND	50.0	0.35	12/20/15 18:49	
Vinyl chloride	ug/L	ND	1.0	0.62	12/20/15 18:49	
Xylene (Total)	ug/L	ND	5.0	0.66	12/20/15 18:49	
1,2-Dichloroethane-d4 (S)	%	92	70-130		12/20/15 18:49	
4-Bromofluorobenzene (S)	%	102	70-130		12/20/15 18:49	
Toluene-d8 (S)	%	111	70-130		12/20/15 18:49	

LABORATORY CONTROL SAMPLE: 1634032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.0	100	80-125	
1,1,1-Trichloroethane	ug/L	50	52.5	105	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	50.0	100	79-124	
1,1,2-Trichloroethane	ug/L	50	52.3	105	85-125	
1,1-Dichloroethane	ug/L	50	47.9	96	73-126	
1,1-Dichloroethene	ug/L	50	48.1	96	66-135	
1,2,3-Trichloropropane	ug/L	50	51.1	102	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	47.9	96	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	53.9	108	83-124	
1,2-Dichlorobenzene	ug/L	50	47.1	94	80-133	
1,2-Dichloroethane	ug/L	50	45.2	90	67-128	
1,2-Dichloropropane	ug/L	50	48.2	96	75-132	
1,4-Dichlorobenzene	ug/L	50	49.6	99	78-130	
2-Butanone (MEK)	ug/L	100	109	109	61-144	
2-Hexanone	ug/L	100	99.3	99	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	72-135	
Acetone	ug/L	100	104	104	48-146	
Acrylonitrile	ug/L	250	260	104	40-160	
Benzene	ug/L	50	53.5	107	80-125	
Bromochloromethane	ug/L	50	53.3	107	71-125	
Bromodichloromethane	ug/L	50	49.4	99	78-124	
Bromoform	ug/L	50	40.3	81	71-128	
Bromomethane	ug/L	50	40.0	80	40-160	
Carbon disulfide	ug/L	50	50.5J	101	50-160	
Carbon tetrachloride	ug/L	50	50.3	101	69-131	
Chlorobenzene	ug/L	50	49.3	99	81-122	
Chloroethane	ug/L	50	43.6	87	39-148	
Chloroform	ug/L	50	49.8	100	73-127	
Chloromethane	ug/L	50	50.0	100	44-146	
cis-1,2-Dichloroethene	ug/L	50	48.3	97	74-124	

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(704)875-9092

QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

LABORATORY CONTROL SAMPLE: 1634032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,3-Dichloropropene	ug/L	50	52.6	105	72-132	
Dibromochloromethane	ug/L	50	51.2	102	78-125	
Dibromomethane	ug/L	50	52.2	104	82-120	
Ethylbenzene	ug/L	50	48.9	98	79-121	
Iodomethane	ug/L	100	78.3	78	39-154	
Methylene Chloride	ug/L	50	58.3	117	64-133	
Styrene	ug/L	50	49.4	99	84-126	
Tetrachloroethene	ug/L	50	48.9	98	78-122	
Tetrahydrofuran	ug/L	500	540	108	69-148	
Toluene	ug/L	50	48.6	97	80-121	
trans-1,2-Dichloroethene	ug/L	50	50.1	100	71-127	
trans-1,3-Dichloropropene	ug/L	50	49.8	100	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	46.0J	92	40-160	
Trichloroethene	ug/L	50	52.9	106	78-122	
Trichlorofluoromethane	ug/L	50	46.3	93	53-137	
Vinyl acetate	ug/L	100	101	101	40-160	
Vinyl chloride	ug/L	50	50.0	100	58-137	
Xylene (Total)	ug/L	150	144	96	81-126	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: WET/41954 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Associated Lab Samples: 92279397001

METHOD BLANK: 1628043 — Matrix: Water
Associated Lab Samples: 92279397001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	ug/L	ND	5000	1000	12/14/15 18:56	

LABORATORY CONTROL SAMPLE: 1628044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	ug/L	50000	49400	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628045 — 1628046

Parameter	Units	92279416001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	ug/L	48.1 mg/L	50000	50000	99300	97700	103	99	80-120	2	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628047 — 1628048

Parameter	Units	92279423004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	ug/L	ND	50000	50000	50000	49400	100	99	80-120	1	25	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: WET/42069 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Associated Lab Samples: 92279397002, 92279397003

METHOD BLANK: 1633336 — Matrix: Water
Associated Lab Samples: 92279397002, 92279397003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	ug/L	ND	5000	1000	12/20/15 16:53	

LABORATORY CONTROL SAMPLE: 1633337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	ug/L	50000	47000	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1633338 1633339

Parameter	Units	92279931011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	ug/L	93.5 mg/L	50000	50000	141000	141000	95	96	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1633340 1633341

Parameter	Units	92279294036 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	ug/L	30.2 mg/L	50000	50000	78100	78900	96	97	80-120	1	25	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: WET/41916 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 92279397001

METHOD BLANK: 1626642 | Matrix: Water
Associated Lab Samples: 92279397001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	ug/L	ND	25000	25000	12/11/15 10:39	

LABORATORY CONTROL SAMPLE: 1626643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	ug/L	250000	246000	98	90-110	

SAMPLE DUPLICATE: 1626644

Parameter	Units	92279178001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	330 mg/L	316000	4	5	

SAMPLE DUPLICATE: 1626645

Parameter	Units	92278979001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	299 mg/L	320000	7	5	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: WET/41951 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 92279397002, 92279397003

METHOD BLANK: 1628031 | Matrix: Water
Associated Lab Samples: 92279397002, 92279397003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	ug/L	ND	25000	25000	12/14/15 08:27	

LABORATORY CONTROL SAMPLE: 1628032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	ug/L	250000	240000	96	90-110	

SAMPLE DUPLICATE: 1628033

Parameter	Units	92279196004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	68.0 mg/L	66000	3	5	

SAMPLE DUPLICATE: 1628034

Parameter	Units	92279407001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	64.0 mg/L	69000	8	5	D6

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: WETA/25748 — Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 — Analysis Description: 300.0 IC Anions
Associated Lab Samples: 92279397001, 92279397002, 92279397003

METHOD BLANK: 1626618 — Matrix: Water
Associated Lab Samples: 92279397001, 92279397002, 92279397003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	ug/L	ND	250000	1000	12/11/15 14:06	

LABORATORY CONTROL SAMPLE: 1626619

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	20000	21000J	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1626620 1626621

Parameter	Units	92278963003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	ug/L	10.1 mg/L	20000	20000	30600J	30800J	103	103	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1626622 1626623

Parameter	Units	92279395006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	ug/L	9260J	20000	20000	29800J	30100J	102	104	90-110	1	10	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

QC Batch: WETA/25851 Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
Associated Lab Samples: 92279397001, 92279397002, 92279397003

METHOD BLANK: 1633380 Matrix: Water
Associated Lab Samples: 92279397001, 92279397002, 92279397003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	ug/L	ND	1000	500	12/18/15 17:52	

LABORATORY CONTROL SAMPLE: 1633381

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	ug/L	20000	19900	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1633382 1633383

Parameter	Units	92280333001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	ug/L	3.0 mg/L	20000	20000	23300	23200	101	101	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1633384 1633385

Parameter	Units	92279763005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	ug/L	63.2 mg/L	100000	100000	132000	131000	68	68	90-110	0	10	M1

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QUALIFIERS

Project: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
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: BURKE-JOHN'S R.-PHASE 1A COMPL
Pace Project No.: 92279397

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92279397001	**1203-MW20**	EPA 3010A	MPRP/20262	EPA 6010	ICP/18292
92279397002	**1203-MW22S**	EPA 3010A	MPRP/20262	EPA 6010	ICP/18292
92279397003	**1203-MW38**	EPA 3010A	MPRP/20262	EPA 6010	ICP/18292
92279397001	**1203-MW20**	EPA 7470	MERP/8789	EPA 7470	MERC/8444
92279397002	**1203-MW22S**	EPA 7470	MERP/8789	EPA 7470	MERC/8444
92279397003	**1203-MW38**	EPA 7470	MERP/8789	EPA 7470	MERC/8444
92279397001	**1203-MW20**	EPA 8260	MSV/34799		
92279397002	**1203-MW22S**	EPA 8260	MSV/34820		
92279397003	**1203-MW38**	EPA 8260	MSV/34820		
92279397001	**1203-MW20**	SM 2320B	WET/41954		
92279397002	**1203-MW22S**	SM 2320B	WET/42069		
92279397003	**1203-MW38**	SM 2320B	WET/42069		
92279397001	**1203-MW20**	SM 2540C	WET/41916		
92279397002	**1203-MW22S**	SM 2540C	WET/41951		
92279397003	**1203-MW38**	SM 2540C	WET/41951		
92279397001	**1203-MW20**	EPA 300.0	WETA/25748		
92279397002	**1203-MW22S**	EPA 300.0	WETA/25748		
92279397003	**1203-MW38**	EPA 300.0	WETA/25748		
92279397001	**1203-MW20**	SM 4500-Cl-E	WETA/25851		
92279397002	**1203-MW22S**	SM 4500-Cl-E	WETA/25851		
92279397003	**1203-MW38**	SM 4500-Cl-E	WETA/25851		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: November 17, 2015 Page 1 of 2*
	Document Number: **F-CHR-CS-003-rev.16.1**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Joyce

* Page 2 of 2 is for Internal Use Only

Courier: ☐ Fed Ex ☐ UPS ☐ USP ☐ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1505 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor No Correction

Corrected Cooler Temp.: 2.3 °C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12.10

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

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	[signature]	Date:	12/10/15
SRF Review:	[signature]	Date:	12/10/15

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)

WO# : 92279397

92279397

Pace Analytical

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:	Joyce Engineering
Address:	2211 West Meadowview Rd
	Greensboro, NC 27407
Email To:	dgirdner@joyceengineering.com
Phone:	(336) 323-0092 Fax
Requested Due Date/TAT:	10 Day (Default)

Section B — Required Project Information:

Report To:	Van Burbach
Copy To:	Dan Girdner
Purchase Order No.	277.1601.12.02
Client Project ID:	Burke-John's R. -PHASE 1A Compl.
Container Order Number:	

Section C — Invoice Information:

Attention:	Lecia Jones
Company Name:	Joyce Engineering
Address:	1604 Ownby Lane, Richmond, VA 23220
Pace Quote Reference:	
Pace Project Manager:	Godwin, Kevin
Pace Profile #:	

Regulatory Agency:

State / Location: North Carolina

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	NC Appendix I Metals	NC C&D Metals Fe, Mn, Hg	NC Appendix I VOC's	THF	TDS	Alkalinity	Chloride	Sulfate					Residual Chlorine (Y/N)	92279397
1	1203-MW-20 3	WT	G			12-8-15	1530		7	X		X	X						X	X	X	X	X	X	X	X						001
2	1203-MW-22S 3	WT	G			12-9-15	1500		7	X		X	X						X	X	X	X	X	X	X	X						002
3	1203-MW-38 7	WT	G			12-9-15	1430		7	X		X	X						X	X	X	X	X	X	X	X						003
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
NC Appendix I plus Additional C&DLF Event	Joyce	12-10-15	1045	PAC	12-10	1045				
	PAC	12-10-15	1420		12-10-15	1420	2.5	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Gretta Elter Hailey Sender

SIGNATURE of SAMPLER: DATE Signed: 12-10-15

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

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

February 12, 2016

Mr. Van Burbach
Joyce Engineering-Greensboro
2211 West Meadowview Rd
Boone Bldg, Suite 101
Greensboro, NC 27407

RE: Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

Dear Mr. Burbach:
Enclosed are the analytical results for sample(s) received by the laboratory on February 05, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

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

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Alex Everhart, Joyce Engineering-NC

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(704)875-9092

CERTIFICATIONS

Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

Asheville Certification IDs
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92285595001	**1203-MW22S**	Water	02/04/16 13:42	02/05/16 13:35

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SAMPLE ANALYTE COUNT

Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92285595001	**1203-MW22S**	EPA 6010	CDF	17	PASI-A

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SUMMARY OF DETECTION

Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92285595001	**1203-MW22S**					
EPA 6010	Arsenic	5.8J	ug/L	10.0	02/10/16 22:11	
EPA 6010	Barium	264	ug/L	100	02/10/16 22:11	
EPA 6010	Beryllium	0.83J	ug/L	1.0	02/10/16 22:11	
EPA 6010	Chromium	6.6J	ug/L	10.0	02/10/16 22:11	
EPA 6010	Cobalt	3.2J	ug/L	10.0	02/10/16 22:11	
EPA 6010	Copper	10.4	ug/L	10.0	02/10/16 22:11	
EPA 6010	Iron	9840	ug/L	300	02/10/16 22:11	
EPA 6010	Lead	10.5	ug/L	10.0	02/10/16 22:11	
EPA 6010	Manganese	124	ug/L	50.0	02/10/16 22:11	
EPA 6010	Nickel	5.7J	ug/L	50.0	02/10/16 22:11	
EPA 6010	Thallium	9.1	ug/L	5.5	02/11/16 17:24	
EPA 6010	Vanadium	16.0J	ug/L	25.0	02/10/16 22:11	
EPA 6010	Zinc	36.5	ug/L	10.0	02/10/16 22:11	

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ANALYTICAL RESULTS

Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

Sample: 1203-MW22S **Lab ID: 92285595001** Collected: 02/04/16 13:42 Received: 02/05/16 13:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010A								
Antimony	ND	ug/L	6.0	3.8	1	02/09/16 16:00	02/10/16 22:11	7440-36-0	
Arsenic	**5.8J**	ug/L	10.0	2.5	1	02/09/16 16:00	02/10/16 22:11	7440-38-2	
Barium	**264**	ug/L	100	2.5	1	02/09/16 16:00	02/10/16 22:11	7440-39-3	
Beryllium	**0.83J**	ug/L	1.0	0.50	1	02/09/16 16:00	02/10/16 22:11	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	02/09/16 16:00	02/10/16 22:11	7440-43-9	
Chromium	**6.6J**	ug/L	10.0	2.5	1	02/09/16 16:00	02/10/16 22:11	7440-47-3	
Cobalt	**3.2J**	ug/L	10.0	2.5	1	02/09/16 16:00	02/10/16 22:11	7440-48-4	
Copper	**10.4**	ug/L	10.0	2.5	1	02/09/16 16:00	02/10/16 22:11	7440-50-8	
Iron	**9840**	ug/L	300	25.0	1	02/09/16 16:00	02/10/16 22:11	7439-89-6	
Lead	**10.5**	ug/L	10.0	2.5	1	02/09/16 16:00	02/10/16 22:11	7439-92-1	
Manganese	**124**	ug/L	50.0	2.5	1	02/09/16 16:00	02/10/16 22:11	7439-96-5	
Nickel	**5.7J**	ug/L	50.0	2.5	1	02/09/16 16:00	02/10/16 22:11	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	02/09/16 16:00	02/10/16 22:11	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	02/09/16 16:00	02/10/16 22:11	7440-22-4	
Thallium	**9.1**	ug/L	5.5	5.0	1	02/09/16 16:00	02/11/16 17:24	7440-28-0	
Vanadium	**16.0J**	ug/L	25.0	2.5	1	02/09/16 16:00	02/10/16 22:11	7440-62-2	
Zinc	**36.5**	ug/L	10.0	5.0	1	02/09/16 16:00	02/10/16 22:11	7440-66-6	

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QUALITY CONTROL DATA

Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

QC Batch: MPRP/20650
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010
Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92285595001

METHOD BLANK: 1662251
Matrix: Water
Associated Lab Samples: 92285595001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	3.8	02/10/16 21:38	
Arsenic	ug/L	ND	10.0	2.5	02/10/16 21:38	
Barium	ug/L	ND	100	2.5	02/10/16 21:38	
Beryllium	ug/L	ND	1.0	0.50	02/10/16 21:38	
Cadmium	ug/L	ND	1.0	0.50	02/10/16 21:38	
Chromium	ug/L	ND	10.0	2.5	02/10/16 21:38	
Cobalt	ug/L	ND	10.0	2.5	02/10/16 21:38	
Copper	ug/L	ND	10.0	2.5	02/10/16 21:38	
Iron	ug/L	ND	300	25.0	02/10/16 21:38	
Lead	ug/L	ND	10.0	2.5	02/11/16 17:09	
Manganese	ug/L	ND	50.0	2.5	02/10/16 21:38	
Nickel	ug/L	ND	50.0	2.5	02/10/16 21:38	
Selenium	ug/L	ND	10.0	5.0	02/10/16 21:38	
Silver	ug/L	ND	10.0	2.5	02/10/16 21:38	
Thallium	ug/L	ND	5.5	5.0	02/10/16 21:38	
Vanadium	ug/L	ND	25.0	2.5	02/10/16 21:38	
Zinc	ug/L	ND	10.0	5.0	02/10/16 21:38	

LABORATORY CONTROL SAMPLE: 1662252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	514	103	80-120	
Arsenic	ug/L	500	496	99	80-120	
Barium	ug/L	500	497	99	80-120	
Beryllium	ug/L	500	488	98	80-120	
Cadmium	ug/L	500	504	101	80-120	
Chromium	ug/L	500	494	99	80-120	
Cobalt	ug/L	500	506	101	80-120	
Copper	ug/L	500	508	102	80-120	
Iron	ug/L	5000	4900	98	80-120	
Lead	ug/L	500	500	100	80-120	
Manganese	ug/L	500	492	98	80-120	
Nickel	ug/L	500	502	100	80-120	
Selenium	ug/L	500	501	100	80-120	
Silver	ug/L	250	248	99	80-120	
Thallium	ug/L	500	508	102	80-120	
Vanadium	ug/L	500	501	100	80-120	
Zinc	ug/L	500	498	100	80-120	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1662253 1662254

Parameter	Units	92285299001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	497	494	99	98	75-125	1	25	
Arsenic	ug/L	7.3J	500	500	466	464	92	91	75-125	1	25	
Barium	ug/L	38.0	500	500	505	508	93	94	75-125	1	25	
Beryllium	ug/L	ND	500	500	466	469	93	94	75-125	1	25	
Cadmium	ug/L	ND	500	500	479	476	96	95	75-125	1	25	
Chromium	ug/L	ND	500	500	450	446	90	89	75-125	1	25	
Cobalt	ug/L	ND	500	500	469	467	94	93	75-125	0	25	
Copper	ug/L	ND	500	500	478	474	96	95	75-125	1	25	
Iron	ug/L	70000	5000	5000	72800	73600	56	72	75-125	1	25	M1
Lead	ug/L	8.1	500	500	467	462	92	91	75-125	1	25	
Manganese	ug/L	207	500	500	664	663	91	91	75-125	0	25	
Nickel	ug/L	ND	500	500	462	459	92	92	75-125	1	25	
Selenium	ug/L	ND	500	500	482	477	96	95	75-125	1	25	
Silver	ug/L	ND	250	250	228	225	91	90	75-125	1	25	
Thallium	ug/L	10.9	500	500	512	521	100	102	75-125	2	25	
Vanadium	ug/L	ND	500	500	481	480	96	95	75-125	0	25	
Zinc	ug/L	6.8J	500	500	473	472	93	93	75-125	0	25	

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

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QUALIFIERS

Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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-A	Pace Analytical Services - Asheville

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JOHN'S R PH 1A RESAMPLE
Pace Project No.: 92285595

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92285595001	**1203-MW22S**	EPA 3010A	MPRP/20650	EPA 6010	ICP/18621

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Pace Analytical®	Document Name: **Sample Condition Upon Receipt(SCUR)**	Document Revised: 26OCT2015 Page 1 of 2
	Document No.: **F-CHR-CS-003-rev.17**	Issuing Authority: Pace Huntersville Quality Office

Sample Condition Upon Receipt

Client Name: Joyce

Project #: WO# : 92285595

92285595

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

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

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

Thermometer Used: ☑ T1505 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☑ Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.2 **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Correction Factor:** 0.0 °C **Date and Initials of Person Examining Contents:** AP 2-5-1

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☑ Yes	☐ No	☐ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC,LLHg	☐ Yes	☐ No	☑ N/A	
Samples checked for dechlorization	☐ Yes	☐ No	☑ N/A	14.
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	16.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if purchased):_____				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager SCURF Review: JY **Date:** 2/9/14

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).

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 : 1 Of 1

Section A — Required Client Information:

Company:	Joyce Engineering
Address:	2211 West Meadowview Rd
	Greensboro, NC 27407
Email To:	dgirdner@joyceengineering.com
Phone:	(336) 323-0092 Fax:
Requested Due Date/TAT:	10 Day (Default)

Section B — Required Project Information:

Report To:	Van Burbach
Copy To:	Dan Girdner
Purchase Order No.	277.1601.12.
Client Project ID:	John's R. -PHASE 1A RESAMPLE
Container Order Number:	

Section C — Invoice Information:

Attention:	Lecia Jones
Company Name:	Joyce Engineering
Address:	1604 Ownby Lane, Richmond, VA 23220
Pace Quote Reference:	
Pace Project Manager:	Godwin, Kevin
Pace Profile #:	

Regulatory Agency

State / Location: North Carolina

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N): NC App. 1 Metals	NC C&D Metals Fe, Mn	NC Appendix I VOC's	THF	TDS	Alkalinity	Chloride	Sulfate					Residual Chlorine (Y/N)	92285595
1	1203-MW-22S	WT	G			2-4-16	1342		1			X						X	X												001
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Field Crew: collect low to no turbidity samples	Gretta Eller / JOYCE	2/5/16	1335	[signature]	2/2/16	1335				
	[signature]	2/5/16	1600	[signature]	2-5-16	1600	1.2	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Gretta Eller

SIGNATURE of SAMPLER: [signature] DATE Signed: 2-4-16

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

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

December 29, 2015

Mr. Van Burbach
Joyce Engineering-Greensboro
2211 West Meadowview Rd
Boone Bldg, Suite 101
Greensboro, NC 27407

RE: Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Dear Mr. Burbach:
Enclosed are the analytical results for sample(s) received by the laboratory on December 10, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

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

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Alex Everhart, Joyce Engineering-NC

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Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Ormond Beach Certification IDs
8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92279347001	**1203-MW21**	Water	12/08/15 11:20	12/10/15 10:45
92279347002	**1203-FIELD BLANK**	Water	12/09/15 15:30	12/10/15 10:45
92279347003	**1203-TRIP BLANK**	Water	12/08/15 00:00	12/10/15 10:45

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SAMPLE ANALYTE COUNT

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92279347001	**1203-MW21**	EPA 8081	SWB	21	PASI-C
		EPA 8082	SWB	8	PASI-C
		EPA 8151	LJM	5	PASI-O
		EPA 6010	CDF	18	PASI-A
		EPA 7470	HVK	1	PASI-A
		EPA 8270	BPJ	111	PASI-C
		EPA 8260	GAW	68	PASI-C
		SM 2320B	MLS	1	PASI-A
		SM 2540C	MJP	1	PASI-A
		SM 4500-S2D	MJP	1	PASI-A
		EPA 300.0	MDW	1	PASI-A
		SM 4500-Cl-E	WRC	1	PASI-A
		SM 4500-CN-E	AES2	1	PASI-A
92279347002	**1203-FIELD BLANK**	EPA 8081	SWB	21	PASI-C
		EPA 8082	SWB	8	PASI-C
		EPA 8151	LJM	5	PASI-O
		EPA 6010	CDF	18	PASI-A
		EPA 7470	HVK	1	PASI-A
		EPA 8270	BPJ	111	PASI-C
		EPA 8260	GAW	68	PASI-C
		SM 4500-S2D	SAM	1	PASI-A
		SM 4500-CN-E	AES2	1	PASI-A
92279347003	**1203-TRIP BLANK**	EPA 8260	GAW	68	PASI-C

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SUMMARY OF DETECTION

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92279347001	**1203-MW21**					
EPA 6010	Barium	17.6J	ug/L	100	12/17/15 02:08	
EPA 6010	Iron	1380	ug/L	300	12/17/15 02:08	
EPA 6010	Manganese	50.0J	ug/L	50.0	12/17/15 02:08	
EPA 6010	Vanadium	6.6J	ug/L	25.0	12/17/15 02:08	
EPA 8260	Acrolein	1.6J	ug/L	53.0	12/19/15 09:45	
SM 2320B	Alkalinity, Total as CaCO3	1030J	ug/L	5000	12/14/15 15:09	
SM 4500-Cl-E	Chloride	859J	ug/L	1000	12/18/15 17:56	
92279347002	**1203-FIELD BLANK**					
EPA 8260	Methylene Chloride	2.0	ug/L	1.0	12/20/15 21:21	C9
92279347003	**1203-TRIP BLANK**					
EPA 8260	Acrolein	2.8J	ug/L	53.0	12/19/15 10:02	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-MW21 **Lab ID: 92279347001** Collected: 12/08/15 11:20 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 Organochlorine Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3510								
Aldrin	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 15:49	309-00-2	
alpha-BHC	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 15:49	319-84-6	
beta-BHC	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 15:49	319-85-7	
delta-BHC	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 15:49	319-86-8	
gamma-BHC (Lindane)	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 15:49	58-89-9	
Chlordane (Technical)	ND	ug/L	0.50	0.20	1	12/15/15 12:15	12/17/15 15:49	57-74-9	
4,4'-DDD	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 15:49	72-54-8	
4,4'-DDE	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 15:49	72-55-9	
4,4'-DDT	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 15:49	50-29-3	
Dieldrin	ND	ug/L	0.075	0.050	1	12/15/15 12:15	12/17/15 15:49	60-57-1	
Endosulfan I	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 15:49	959-98-8	
Endosulfan II	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 15:49	33213-65-9	
Endosulfan sulfate	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 15:49	1031-07-8	
Endrin	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 15:49	72-20-8	
Endrin aldehyde	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 15:49	7421-93-4	
Heptachlor	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 15:49	76-44-8	
Heptachlor epoxide	ND	ug/L	0.075	0.050	1	12/15/15 12:15	12/17/15 15:49	1024-57-3	
Methoxychlor	ND	ug/L	1.0	0.15	1	12/15/15 12:15	12/17/15 15:49	72-43-5	
Toxaphene	ND	ug/L	1.5	0.20	1	12/15/15 12:15	12/17/15 15:49	8001-35-2	
Surrogates									
Tetrachloro-m-xylene (S)	74	%	20-130		1	12/15/15 12:15	12/17/15 15:49	877-09-8	
Decachlorobiphenyl (S)	62	%	20-130		1	12/15/15 12:15	12/17/15 15:49	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3510								
PCB-1016 (Aroclor 1016)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 03:41	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 03:41	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 03:41	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 03:41	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 03:41	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 03:41	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 03:41	11096-82-5	
Surrogates									
Decachlorobiphenyl (S)	73	%	10-132		1	12/13/15 12:53	12/15/15 03:41	2051-24-3	
8151 Chlorinated Herbicides	Analytical Method: EPA 8151 Preparation Method: EPA 8151								
2,4-D	ND	ug/L	0.94	0.22	1	12/15/15 20:15	12/18/15 10:47	94-75-7	
Dinoseb	ND	ug/L	0.19	0.057	1	12/15/15 20:15	12/18/15 10:47	88-85-7	
2,4,5-T	ND	ug/L	0.19	0.042	1	12/15/15 20:15	12/18/15 10:47	93-76-5	
2,4,5-TP (Silvex)	ND	ug/L	0.19	0.049	1	12/15/15 20:15	12/18/15 10:47	93-72-1	
Surrogates									
2,4-DCAA (S)	87	%	36-130		1	12/15/15 20:15	12/18/15 10:47	19719-28-9	
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010A								
Antimony	ND	ug/L	6.0	3.8	1	12/12/15 00:00	12/17/15 02:08	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:08	7440-38-2	
Barium	**17.6J**	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 02:08	7440-39-3	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-MW21 **Lab ID: 92279347001** Collected: 12/08/15 11:20 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010	Preparation Method: EPA 3010A							
Beryllium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 02:08	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 02:08	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:08	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:08	7440-48-4	
Copper	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:08	7440-50-8	
Iron	**1380**	ug/L	300	25.0	1	12/12/15 00:00	12/17/15 02:08	7439-89-6	
Lead	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:08	7439-92-1	
Manganese	**50.0J**	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 02:08	7439-96-5	
Nickel	ND	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 02:08	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 02:08	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:08	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	12/12/15 00:00	12/17/15 02:08	7440-28-0	
Tin	ND	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 02:08	7440-31-5	
Vanadium	**6.6J**	ug/L	25.0	2.5	1	12/12/15 00:00	12/17/15 02:08	7440-62-2	
Zinc	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 02:08	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470	Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	0.10	1	12/17/15 14:05	12/17/15 18:27	7439-97-6	
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270	Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	0.25	1	12/15/15 17:28	12/21/15 20:51	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.21	1	12/15/15 17:28	12/21/15 20:51	208-96-8	
Acetophenone	ND	ug/L	10.0	2.0	1	12/15/15 17:28	12/21/15 20:51	98-86-2	
2-Acetylaminofluorene	ND	ug/L	20.0	0.84	1	12/15/15 17:28	12/21/15 20:51	53-96-3	
4-Aminobiphenyl	ND	ug/L	20.0	0.92	1	12/15/15 17:28	12/21/15 20:51	92-67-1	
Anthracene	ND	ug/L	10.0	0.14	1	12/15/15 17:28	12/21/15 20:51	120-12-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.33	1	12/15/15 17:28	12/21/15 20:51	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.30	1	12/15/15 17:28	12/21/15 20:51	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.28	1	12/15/15 17:28	12/21/15 20:51	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.38	1	12/15/15 17:28	12/21/15 20:51	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.43	1	12/15/15 17:28	12/21/15 20:51	207-08-9	
Benzyl alcohol	ND	ug/L	20.0	3.4	1	12/15/15 17:28	12/21/15 20:51	100-51-6	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/21/15 20:51	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.75	1	12/15/15 17:28	12/21/15 20:51	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	20.0	4.2	1	12/15/15 17:28	12/21/15 20:51	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	3.4	1	12/15/15 17:28	12/21/15 20:51	106-47-8	
Chlorobenzilate	ND	ug/L	10.0	0.72	1	12/15/15 17:28	12/21/15 20:51	510-15-6	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/21/15 20:51	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/21/15 20:51	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	10.0	1.6	1	12/15/15 17:28	12/21/15 20:51	108-60-1	
2-Chloronaphthalene	ND	ug/L	10.0	2.2	1	12/15/15 17:28	12/21/15 20:51	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/21/15 20:51	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	2.1	1	12/15/15 17:28	12/21/15 20:51	7005-72-3	
Chrysene	ND	ug/L	10.0	0.21	1	12/15/15 17:28	12/21/15 20:51	218-01-9	
Diallate	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/21/15 20:51	2303-16-4	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.55	1	12/15/15 17:28	12/21/15 20:51	53-70-3	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-MW21 **Lab ID: 92279347001** Collected: 12/08/15 11:20 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Dibenzofuran	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/21/15 20:51	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	1.4	1	12/15/15 17:28	12/21/15 20:51	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/21/15 20:51	120-83-2	
2,6-Dichlorophenol	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/21/15 20:51	87-65-0	
Diethylphthalate	ND	ug/L	6000	1.3	1	12/15/15 17:28	12/21/15 20:51	84-66-2	
Dimethoate	ND	ug/L	20.0	0.92	1	12/15/15 17:28	12/21/15 20:51	60-51-5	
P-Dimethylaminoazobenzene	ND	ug/L	10.0	0.35	1	12/15/15 17:28	12/21/15 20:51	60-11-7	
7,12-Dimethylbenz(a)anthracene	ND	ug/L	10.0	0.77	1	12/15/15 17:28	12/21/15 20:51	57-97-6	
3,3'-Dimethylbenzidine	ND	ug/L	10.0	2.1	1	12/15/15 17:28	12/21/15 20:51	119-93-7	
2,4-Dimethylphenol	ND	ug/L	10.0	2.2	1	12/15/15 17:28	12/21/15 20:51	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/21/15 20:51	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/21/15 20:51	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	1.7	1	12/15/15 17:28	12/21/15 20:51	534-52-1	
1,3-Dinitrobenzene	ND	ug/L	20.0	1.5	1	12/15/15 17:28	12/21/15 20:51	99-65-0	
2,4-Dinitrophenol	ND	ug/L	50.0	6.5	1	12/15/15 17:28	12/21/15 20:51	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	1.2	1	12/15/15 17:28	12/21/15 20:51	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/21/15 20:51	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.86	1	12/15/15 17:28	12/21/15 20:51	117-84-0	
Diphenylamine	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/21/15 20:51	122-39-4	
Disulfoton	ND	ug/L	10.0	1.4	1	12/15/15 17:28	12/21/15 20:51	298-04-4	
bis(2-Ethylhexyl)phthalate	ND	ug/L	15.0	0.85	1	12/15/15 17:28	12/21/15 20:51	117-81-7	
Ethyl methanesulfonate	ND	ug/L	20.0	1.8	1	12/15/15 17:28	12/21/15 20:51	62-50-0	
Famphur	ND	ug/L	20.0	1.7	1	12/15/15 17:28	12/21/15 20:51	52-85-7	
Fluoranthene	ND	ug/L	10.0	0.21	1	12/15/15 17:28	12/21/15 20:51	206-44-0	L3
Fluorene	ND	ug/L	10.0	0.21	1	12/15/15 17:28	12/21/15 20:51	86-73-7	
Hexachlorobenzene	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/21/15 20:51	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/21/15 20:51	77-47-4	
Hexachloroethane	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/21/15 20:51	67-72-1	
Hexachloropropene	ND	ug/L	10.0	1.6	1	12/15/15 17:28	12/21/15 20:51	1888-71-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.29	1	12/15/15 17:28	12/21/15 20:51	193-39-5	
Isodrin	ND	ug/L	20.0	2.0	1	12/15/15 17:28	12/21/15 20:51	465-73-6	L3
Isophorone	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/21/15 20:51	78-59-1	
Isosafrole	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/21/15 20:51	120-58-1	
Kepone	ND	ug/L	20.0	3.1	1	12/15/15 17:28	12/21/15 20:51	143-50-0	
Methapyrilene	ND	ug/L	100	2.7	1	12/15/15 17:28	12/21/15 20:51	91-80-5	L2
3-Methylcholanthrene	ND	ug/L	10.0	0.82	1	12/15/15 17:28	12/21/15 20:51	56-49-5	
Methyl methanesulfonate	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/21/15 20:51	66-27-3	
2-Methylnaphthalene	ND	ug/L	10.0	0.28	1	12/15/15 17:28	12/21/15 20:51	91-57-6	
Methyl parathion	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/21/15 20:51	298-00-0	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/21/15 20:51	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/21/15 20:51		
1-Naphthalenamine	ND	ug/L	10.0	0.96	1	12/15/15 17:28	12/21/15 20:51	134-32-7	
2-Naphthalenamine	ND	ug/L	10.0	0.98	1	12/15/15 17:28	12/21/15 20:51	91-59-8	
1,4-Naphthoquinone	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/21/15 20:51	130-15-4	
2-Nitroaniline	ND	ug/L	50.0	2.8	1	12/15/15 17:28	12/21/15 20:51	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	2.4	1	12/15/15 17:28	12/21/15 20:51	99-09-2	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-MW21 **Lab ID: 92279347001** Collected: 12/08/15 11:20 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510								
4-Nitroaniline	ND	ug/L	20.0	2.5	1	12/15/15 17:28	12/21/15 20:51	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/21/15 20:51	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/21/15 20:51	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	5.8	1	12/15/15 17:28	12/21/15 20:51	100-02-7	
5-Nitro-o-toluidine	ND	ug/L	10.0	1.2	1	12/15/15 17:28	12/21/15 20:51	99-55-8	
N-Nitrosodiethylamine	ND	ug/L	20.0	1.8	1	12/15/15 17:28	12/21/15 20:51	55-18-5	
N-Nitrosodimethylamine	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/21/15 20:51	62-75-9	
N-Nitroso-di-n-butylamine	ND	ug/L	10.0	2.2	1	12/15/15 17:28	12/21/15 20:51	924-16-3	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	2.1	1	12/15/15 17:28	12/21/15 20:51	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/21/15 20:51	86-30-6	
N-Nitrosomethylethylamine	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/21/15 20:51	10595-95-6	
N-Nitrosopiperidine	ND	ug/L	20.0	1.9	1	12/15/15 17:28	12/21/15 20:51	100-75-4	
N-Nitrosopyrrolidine	ND	ug/L	10.0	2.5	1	12/15/15 17:28	12/21/15 20:51	930-55-2	
O,O,O-Triethylphosphorothioate	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/21/15 20:51	126-68-1	
Parathion (Ethyl parathion)	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/21/15 20:51	56-38-2	
Pentachlorobenzene	ND	ug/L	10.0	2.0	1	12/15/15 17:28	12/21/15 20:51	608-93-5	
Pentachloronitrobenzene	ND	ug/L	20.0	1.0	1	12/15/15 17:28	12/21/15 20:51	82-68-8	
Pentachlorophenol	ND	ug/L	25.0	2.3	1	12/15/15 17:28	12/21/15 20:51	87-86-5	
Phenacetin	ND	ug/L	20.0	0.97	1	12/15/15 17:28	12/21/15 20:51	62-44-2	
Phenanthrene	ND	ug/L	10.0	0.22	1	12/15/15 17:28	12/21/15 20:51	85-01-8	
Phenol	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/21/15 20:51	108-95-2	
p-Phenylenediamine	ND	ug/L	10.0	0.96	1	12/15/15 17:28	12/21/15 20:51	106-50-3	
Phorate	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/21/15 20:51	298-02-2	L3
Pronamide	ND	ug/L	10.0	0.97	1	12/15/15 17:28	12/21/15 20:51	23950-58-5	
Pyrene	ND	ug/L	10.0	0.19	1	12/15/15 17:28	12/21/15 20:51	129-00-0	
Safrole	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/21/15 20:51	94-59-7	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/21/15 20:51	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	2.3	1	12/15/15 17:28	12/21/15 20:51	58-90-2	
Thionazin	ND	ug/L	20.0	1.2	1	12/15/15 17:28	12/21/15 20:51	297-97-2	
O-Toluidine	ND	ug/L	10.0	1.6	1	12/15/15 17:28	12/21/15 20:51	95-53-4	
2,4,5-Trichlorophenol	ND	ug/L	10.0	2.2	1	12/15/15 17:28	12/21/15 20:51	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1.9	1	12/15/15 17:28	12/21/15 20:51	88-06-2	
1,3,5-Trinitrobenzene	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/21/15 20:51	99-35-4	L3
Surrogates									
Nitrobenzene-d5 (S)	79	%	21-110		1	12/15/15 17:28	12/21/15 20:51	4165-60-0	
2-Fluorobiphenyl (S)	76	%	27-110		1	12/15/15 17:28	12/21/15 20:51	321-60-8	
Terphenyl-d14 (S)	97	%	31-107		1	12/15/15 17:28	12/21/15 20:51	1718-51-0	
Phenol-d6 (S)	22	%	10-110		1	12/15/15 17:28	12/21/15 20:51	13127-88-3	
2-Fluorophenol (S)	34	%	12-110		1	12/15/15 17:28	12/21/15 20:51	367-12-4	
2,4,6-Tribromophenol (S)	98	%	27-110		1	12/15/15 17:28	12/21/15 20:51	118-79-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		12/19/15 09:45	67-64-1	
Acetonitrile	ND	ug/L	55.0	2.2	1		12/19/15 09:45	75-05-8	
Acrolein	**1.6J**	ug/L	53.0	1.6	1		12/19/15 09:45	107-02-8	
Acrylonitrile	ND	ug/L	200	1.9	1		12/19/15 09:45	107-13-1	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-MW21 **Lab ID: 92279347001** Collected: 12/08/15 11:20 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Allyl chloride	ND	ug/L	10.0	1.5	1		12/19/15 09:45	107-05-1	
Benzene	ND	ug/L	1.0	0.25	1		12/19/15 09:45	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		12/19/15 09:45	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		12/19/15 09:45	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		12/19/15 09:45	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		12/19/15 09:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		12/19/15 09:45	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		12/19/15 09:45	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		12/19/15 09:45	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		12/19/15 09:45	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		12/19/15 09:45	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		12/19/15 09:45	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		12/19/15 09:45	74-87-3	
Chloroprene	ND	ug/L	20.0	0.27	1		12/19/15 09:45	126-99-8	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		12/19/15 09:45	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		12/19/15 09:45	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		12/19/15 09:45	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		12/19/15 09:45	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		12/19/15 09:45	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	0.24	1		12/19/15 09:45	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/19/15 09:45	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		12/19/15 09:45	110-57-6	
Dichlorodifluoromethane	ND	ug/L	5.0	0.21	1		12/19/15 09:45	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/19/15 09:45	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/19/15 09:45	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		12/19/15 09:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		12/19/15 09:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		12/19/15 09:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		12/19/15 09:45	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		12/19/15 09:45	142-28-9	
2,2-Dichloropropane	ND	ug/L	15.0	0.13	1		12/19/15 09:45	594-20-7	
1,1-Dichloropropene	ND	ug/L	5.0	0.49	1		12/19/15 09:45	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		12/19/15 09:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		12/19/15 09:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/19/15 09:45	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.20	1		12/19/15 09:45	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.71	1		12/19/15 09:45	87-68-3	
2-Hexanone	ND	ug/L	50.0	0.46	1		12/19/15 09:45	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		12/19/15 09:45	74-88-4	
Isobutanol	ND	ug/L	100	35.0	1		12/19/15 09:45	78-83-1	
Methacrylonitrile	ND	ug/L	100	0.93	1		12/19/15 09:45	126-98-7	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/19/15 09:45	75-09-2	
Methyl methacrylate	ND	ug/L	30.0	2.0	1		12/19/15 09:45	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		12/19/15 09:45	108-10-1	
Naphthalene	ND	ug/L	10.0	0.24	1		12/19/15 09:45	91-20-3	
Propionitrile	ND	ug/L	150	3.6	1		12/19/15 09:45	107-12-0	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-MW21 **Lab ID: 92279347001** Collected: 12/08/15 11:20 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Styrene	ND	ug/L	1.0	0.26	1		12/19/15 09:45	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		12/19/15 09:45	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		12/19/15 09:45	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/19/15 09:45	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	3.1	1		12/19/15 09:45	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		12/19/15 09:45	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	0.35	1		12/19/15 09:45	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		12/19/15 09:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		12/19/15 09:45	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/19/15 09:45	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		12/19/15 09:45	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		12/19/15 09:45	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		12/19/15 09:45	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/19/15 09:45	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		12/19/15 09:45	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		12/19/15 09:45	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		12/19/15 09:45	17060-07-0	
Toluene-d8 (S)	111	%	70-130		1		12/19/15 09:45	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**1030J**	ug/L	5000	1000	1		12/14/15 15:09		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	ug/L	25000	25000	1		12/11/15 10:41		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D								
Sulfide	ND	ug/L	1000	100	1		12/11/15 15:00	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	ND	ug/L	250000	1000	1		12/11/15 14:06	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E								
Chloride	**859J**	ug/L	1000	500	1		12/18/15 17:56	16887-00-6	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E								
Cyanide	ND	ug/L	10.0	4.0	1		12/16/15 11:10	57-12-5	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-FIELD BLANK **Lab ID: 92279347002** Collected: 12/09/15 15:30 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 Organochlorine Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3510								
Aldrin	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 18:48	309-00-2	
alpha-BHC	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 18:48	319-84-6	
beta-BHC	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 18:48	319-85-7	
delta-BHC	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 18:48	319-86-8	
gamma-BHC (Lindane)	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 18:48	58-89-9	
Chlordane (Technical)	ND	ug/L	0.50	0.20	1	12/15/15 12:15	12/17/15 18:48	57-74-9	
4,4'-DDD	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 18:48	72-54-8	
4,4'-DDE	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 18:48	72-55-9	
4,4'-DDT	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 18:48	50-29-3	
Dieldrin	ND	ug/L	0.075	0.050	1	12/15/15 12:15	12/17/15 18:48	60-57-1	
Endosulfan I	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 18:48	959-98-8	
Endosulfan II	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 18:48	33213-65-9	
Endosulfan sulfate	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 18:48	1031-07-8	
Endrin	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 18:48	72-20-8	
Endrin aldehyde	ND	ug/L	0.10	0.050	1	12/15/15 12:15	12/17/15 18:48	7421-93-4	
Heptachlor	ND	ug/L	0.050	0.050	1	12/15/15 12:15	12/17/15 18:48	76-44-8	
Heptachlor epoxide	ND	ug/L	0.075	0.050	1	12/15/15 12:15	12/17/15 18:48	1024-57-3	
Methoxychlor	ND	ug/L	1.0	0.15	1	12/15/15 12:15	12/17/15 18:48	72-43-5	
Toxaphene	ND	ug/L	1.5	0.20	1	12/15/15 12:15	12/17/15 18:48	8001-35-2	
Surrogates									
Tetrachloro-m-xylene (S)	74	%	20-130		1	12/15/15 12:15	12/17/15 18:48	877-09-8	
Decachlorobiphenyl (S)	64	%	20-130		1	12/15/15 12:15	12/17/15 18:48	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3510								
PCB-1016 (Aroclor 1016)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 04:23	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 04:23	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 04:23	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 04:23	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 04:23	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 04:23	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/L	0.50	0.50	1	12/13/15 12:53	12/15/15 04:23	11096-82-5	
Surrogates									
Decachlorobiphenyl (S)	57	%	10-132		1	12/13/15 12:53	12/15/15 04:23	2051-24-3	
8151 Chlorinated Herbicides	Analytical Method: EPA 8151 Preparation Method: EPA 8151								
2,4-D	ND	ug/L	0.94	0.22	1	12/15/15 20:15	12/18/15 11:17	94-75-7	
Dinoseb	ND	ug/L	0.19	0.057	1	12/15/15 20:15	12/18/15 11:17	88-85-7	
2,4,5-T	ND	ug/L	0.19	0.042	1	12/15/15 20:15	12/18/15 11:17	93-76-5	
2,4,5-TP (Silvex)	ND	ug/L	0.19	0.049	1	12/15/15 20:15	12/18/15 11:17	93-72-1	
Surrogates									
2,4-DCAA (S)	85	%	36-130		1	12/15/15 20:15	12/18/15 11:17	19719-28-9	
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010A								
Antimony	ND	ug/L	6.0	3.8	1	12/12/15 00:00	12/17/15 02:11	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:11	7440-38-2	
Barium	ND	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 02:11	7440-39-3	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-FIELD BLANK **Lab ID: 92279347002** Collected: 12/09/15 15:30 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010	Preparation Method: EPA 3010A							
Beryllium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 02:11	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 02:11	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:11	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:11	7440-48-4	
Copper	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:11	7440-50-8	
Iron	ND	ug/L	300	25.0	1	12/12/15 00:00	12/17/15 02:11	7439-89-6	
Lead	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:11	7439-92-1	
Manganese	ND	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 02:11	7439-96-5	
Nickel	ND	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 02:11	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 02:11	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 02:11	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	12/12/15 00:00	12/17/15 02:11	7440-28-0	
Tin	ND	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 02:11	7440-31-5	
Vanadium	ND	ug/L	25.0	2.5	1	12/12/15 00:00	12/17/15 02:11	7440-62-2	
Zinc	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 02:11	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470	Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	0.10	1	12/17/15 14:05	12/17/15 18:29	7439-97-6	
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270	Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	0.25	1	12/15/15 17:28	12/29/15 11:19	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.21	1	12/15/15 17:28	12/29/15 11:19	208-96-8	
Acetophenone	ND	ug/L	10.0	2.0	1	12/15/15 17:28	12/29/15 11:19	98-86-2	
2-Acetylaminofluorene	ND	ug/L	20.0	0.84	1	12/15/15 17:28	12/29/15 11:19	53-96-3	
4-Aminobiphenyl	ND	ug/L	20.0	0.92	1	12/15/15 17:28	12/29/15 11:19	92-67-1	
Anthracene	ND	ug/L	10.0	0.14	1	12/15/15 17:28	12/29/15 11:19	120-12-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.33	1	12/15/15 17:28	12/29/15 11:19	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.30	1	12/15/15 17:28	12/29/15 11:19	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.28	1	12/15/15 17:28	12/29/15 11:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.38	1	12/15/15 17:28	12/29/15 11:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.43	1	12/15/15 17:28	12/29/15 11:19	207-08-9	
Benzyl alcohol	ND	ug/L	20.0	3.4	1	12/15/15 17:28	12/29/15 11:19	100-51-6	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/29/15 11:19	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.75	1	12/15/15 17:28	12/29/15 11:19	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	20.0	4.2	1	12/15/15 17:28	12/29/15 11:19	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	3.4	1	12/15/15 17:28	12/29/15 11:19	106-47-8	
Chlorobenzilate	ND	ug/L	10.0	0.72	1	12/15/15 17:28	12/29/15 11:19	510-15-6	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/29/15 11:19	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/29/15 11:19	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	10.0	1.6	1	12/15/15 17:28	12/29/15 11:19	108-60-1	
2-Chloronaphthalene	ND	ug/L	10.0	2.2	1	12/15/15 17:28	12/29/15 11:19	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/29/15 11:19	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	2.1	1	12/15/15 17:28	12/29/15 11:19	7005-72-3	
Chrysene	ND	ug/L	10.0	0.21	1	12/15/15 17:28	12/29/15 11:19	218-01-9	
Diallate	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/29/15 11:19	2303-16-4	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.55	1	12/15/15 17:28	12/29/15 11:19	53-70-3	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-FIELD BLANK **Lab ID: 92279347002** Collected: 12/09/15 15:30 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510								
Dibenzofuran	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/29/15 11:19	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	1.4	1	12/15/15 17:28	12/29/15 11:19	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/29/15 11:19	120-83-2	
2,6-Dichlorophenol	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/29/15 11:19	87-65-0	
Diethylphthalate	ND	ug/L	6000	1.3	1	12/15/15 17:28	12/29/15 11:19	84-66-2	
Dimethoate	ND	ug/L	20.0	0.92	1	12/15/15 17:28	12/29/15 11:19	60-51-5	
P-Dimethylaminoazobenzene	ND	ug/L	10.0	0.35	1	12/15/15 17:28	12/29/15 11:19	60-11-7	
7,12-Dimethylbenz(a)anthracene	ND	ug/L	10.0	0.77	1	12/15/15 17:28	12/29/15 11:19	57-97-6	
3,3'-Dimethylbenzidine	ND	ug/L	10.0	2.1	1	12/15/15 17:28	12/29/15 11:19	119-93-7	
2,4-Dimethylphenol	ND	ug/L	10.0	2.2	1	12/15/15 17:28	12/29/15 11:19	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/29/15 11:19	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/29/15 11:19	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	1.7	1	12/15/15 17:28	12/29/15 11:19	534-52-1	
1,3-Dinitrobenzene	ND	ug/L	20.0	1.5	1	12/15/15 17:28	12/29/15 11:19	99-65-0	
2,4-Dinitrophenol	ND	ug/L	50.0	6.5	1	12/15/15 17:28	12/29/15 11:19	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	1.2	1	12/15/15 17:28	12/29/15 11:19	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/29/15 11:19	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.86	1	12/15/15 17:28	12/29/15 11:19	117-84-0	
Diphenylamine	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/29/15 11:19	122-39-4	
Disulfoton	ND	ug/L	10.0	1.4	1	12/15/15 17:28	12/29/15 11:19	298-04-4	
bis(2-Ethylhexyl)phthalate	ND	ug/L	15.0	0.85	1	12/15/15 17:28	12/29/15 11:19	117-81-7	
Ethyl methanesulfonate	ND	ug/L	20.0	1.8	1	12/15/15 17:28	12/29/15 11:19	62-50-0	
Famphur	ND	ug/L	20.0	1.7	1	12/15/15 17:28	12/29/15 11:19	52-85-7	
Fluoranthene	ND	ug/L	10.0	0.21	1	12/15/15 17:28	12/29/15 11:19	206-44-0	L3
Fluorene	ND	ug/L	10.0	0.21	1	12/15/15 17:28	12/29/15 11:19	86-73-7	
Hexachlorobenzene	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/29/15 11:19	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/29/15 11:19	77-47-4	
Hexachloroethane	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/29/15 11:19	67-72-1	
Hexachloropropene	ND	ug/L	10.0	1.6	1	12/15/15 17:28	12/29/15 11:19	1888-71-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.29	1	12/15/15 17:28	12/29/15 11:19	193-39-5	
Isodrin	ND	ug/L	20.0	2.0	1	12/15/15 17:28	12/29/15 11:19	465-73-6	L3
Isophorone	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/29/15 11:19	78-59-1	
Isosafrole	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/29/15 11:19	120-58-1	
Kepone	ND	ug/L	20.0	3.1	1	12/15/15 17:28	12/29/15 11:19	143-50-0	
Methapyrilene	ND	ug/L	100	2.7	1	12/15/15 17:28	12/29/15 11:19	91-80-5	L2
3-Methylcholanthrene	ND	ug/L	10.0	0.82	1	12/15/15 17:28	12/29/15 11:19	56-49-5	
Methyl methanesulfonate	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/29/15 11:19	66-27-3	
2-Methylnaphthalene	ND	ug/L	10.0	0.28	1	12/15/15 17:28	12/29/15 11:19	91-57-6	
Methyl parathion	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/29/15 11:19	298-00-0	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/29/15 11:19	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/29/15 11:19		
1-Naphthalenamine	ND	ug/L	10.0	0.96	1	12/15/15 17:28	12/29/15 11:19	134-32-7	
2-Naphthalenamine	ND	ug/L	10.0	0.98	1	12/15/15 17:28	12/29/15 11:19	91-59-8	
1,4-Naphthoquinone	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/29/15 11:19	130-15-4	
2-Nitroaniline	ND	ug/L	50.0	2.8	1	12/15/15 17:28	12/29/15 11:19	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	2.4	1	12/15/15 17:28	12/29/15 11:19	99-09-2	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-FIELD BLANK **Lab ID: 92279347002** Collected: 12/09/15 15:30 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510								
4-Nitroaniline	ND	ug/L	20.0	2.5	1	12/15/15 17:28	12/29/15 11:19	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/29/15 11:19	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/29/15 11:19	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	5.8	1	12/15/15 17:28	12/29/15 11:19	100-02-7	
5-Nitro-o-toluidine	ND	ug/L	10.0	1.2	1	12/15/15 17:28	12/29/15 11:19	99-55-8	
N-Nitrosodiethylamine	ND	ug/L	20.0	1.8	1	12/15/15 17:28	12/29/15 11:19	55-18-5	
N-Nitrosodimethylamine	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/29/15 11:19	62-75-9	
N-Nitroso-di-n-butylamine	ND	ug/L	10.0	2.2	1	12/15/15 17:28	12/29/15 11:19	924-16-3	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	2.1	1	12/15/15 17:28	12/29/15 11:19	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	1.3	1	12/15/15 17:28	12/29/15 11:19	86-30-6	
N-Nitrosomethylethylamine	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/29/15 11:19	10595-95-6	
N-Nitrosopiperidine	ND	ug/L	20.0	1.9	1	12/15/15 17:28	12/29/15 11:19	100-75-4	
N-Nitrosopyrrolidine	ND	ug/L	10.0	2.5	1	12/15/15 17:28	12/29/15 11:19	930-55-2	
O,O,O-Triethylphosphorothioate	ND	ug/L	10.0	1.8	1	12/15/15 17:28	12/29/15 11:19	126-68-1	
Parathion (Ethyl parathion)	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/29/15 11:19	56-38-2	
Pentachlorobenzene	ND	ug/L	10.0	2.0	1	12/15/15 17:28	12/29/15 11:19	608-93-5	
Pentachloronitrobenzene	ND	ug/L	20.0	1.0	1	12/15/15 17:28	12/29/15 11:19	82-68-8	
Pentachlorophenol	ND	ug/L	25.0	2.3	1	12/15/15 17:28	12/29/15 11:19	87-86-5	
Phenacetin	ND	ug/L	20.0	0.97	1	12/15/15 17:28	12/29/15 11:19	62-44-2	
Phenanthrene	ND	ug/L	10.0	0.22	1	12/15/15 17:28	12/29/15 11:19	85-01-8	
Phenol	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/29/15 11:19	108-95-2	
p-Phenylenediamine	ND	ug/L	10.0	0.96	1	12/15/15 17:28	12/29/15 11:19	106-50-3	
Phorate	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/29/15 11:19	298-02-2	L3
Pronamide	ND	ug/L	10.0	0.97	1	12/15/15 17:28	12/29/15 11:19	23950-58-5	
Pyrene	ND	ug/L	10.0	0.19	1	12/15/15 17:28	12/29/15 11:19	129-00-0	
Safrole	ND	ug/L	10.0	1.5	1	12/15/15 17:28	12/29/15 11:19	94-59-7	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.7	1	12/15/15 17:28	12/29/15 11:19	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	2.3	1	12/15/15 17:28	12/29/15 11:19	58-90-2	
Thionazin	ND	ug/L	20.0	1.2	1	12/15/15 17:28	12/29/15 11:19	297-97-2	
O-Toluidine	ND	ug/L	10.0	1.6	1	12/15/15 17:28	12/29/15 11:19	95-53-4	
2,4,5-Trichlorophenol	ND	ug/L	10.0	2.2	1	12/15/15 17:28	12/29/15 11:19	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1.9	1	12/15/15 17:28	12/29/15 11:19	88-06-2	
1,3,5-Trinitrobenzene	ND	ug/L	10.0	1.1	1	12/15/15 17:28	12/29/15 11:19	99-35-4	L3
Surrogates									
Nitrobenzene-d5 (S)	65	%	21-110		1	12/15/15 17:28	12/29/15 11:19	4165-60-0	
2-Fluorobiphenyl (S)	65	%	27-110		1	12/15/15 17:28	12/29/15 11:19	321-60-8	
Terphenyl-d14 (S)	82	%	31-107		1	12/15/15 17:28	12/29/15 11:19	1718-51-0	
Phenol-d6 (S)	21	%	10-110		1	12/15/15 17:28	12/29/15 11:19	13127-88-3	
2-Fluorophenol (S)	33	%	12-110		1	12/15/15 17:28	12/29/15 11:19	367-12-4	
2,4,6-Tribromophenol (S)	64	%	27-110		1	12/15/15 17:28	12/29/15 11:19	118-79-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		12/20/15 21:21	67-64-1	
Acetonitrile	ND	ug/L	55.0	2.2	1		12/20/15 21:21	75-05-8	
Acrolein	ND	ug/L	53.0	1.6	1		12/20/15 21:21	107-02-8	
Acrylonitrile	ND	ug/L	200	1.9	1		12/20/15 21:21	107-13-1	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-FIELD BLANK **Lab ID: 92279347002** Collected: 12/09/15 15:30 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Allyl chloride	ND	ug/L	10.0	1.5	1		12/20/15 21:21	107-05-1	
Benzene	ND	ug/L	1.0	0.25	1		12/20/15 21:21	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		12/20/15 21:21	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		12/20/15 21:21	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		12/20/15 21:21	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		12/20/15 21:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		12/20/15 21:21	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		12/20/15 21:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		12/20/15 21:21	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		12/20/15 21:21	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		12/20/15 21:21	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		12/20/15 21:21	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		12/20/15 21:21	74-87-3	
Chloroprene	ND	ug/L	20.0	0.27	1		12/20/15 21:21	126-99-8	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		12/20/15 21:21	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		12/20/15 21:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		12/20/15 21:21	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		12/20/15 21:21	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		12/20/15 21:21	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	0.24	1		12/20/15 21:21	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/20/15 21:21	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		12/20/15 21:21	110-57-6	
Dichlorodifluoromethane	ND	ug/L	5.0	0.21	1		12/20/15 21:21	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/20/15 21:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/20/15 21:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		12/20/15 21:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		12/20/15 21:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		12/20/15 21:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		12/20/15 21:21	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		12/20/15 21:21	142-28-9	
2,2-Dichloropropane	ND	ug/L	15.0	0.13	1		12/20/15 21:21	594-20-7	
1,1-Dichloropropene	ND	ug/L	5.0	0.49	1		12/20/15 21:21	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		12/20/15 21:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		12/20/15 21:21	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/20/15 21:21	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.20	1		12/20/15 21:21	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.71	1		12/20/15 21:21	87-68-3	
2-Hexanone	ND	ug/L	50.0	0.46	1		12/20/15 21:21	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		12/20/15 21:21	74-88-4	
Isobutanol	ND	ug/L	100	35.0	1		12/20/15 21:21	78-83-1	
Methacrylonitrile	ND	ug/L	100	0.93	1		12/20/15 21:21	126-98-7	
Methylene Chloride	**2.0**	ug/L	1.0	0.97	1		12/20/15 21:21	75-09-2	C9
Methyl methacrylate	ND	ug/L	30.0	2.0	1		12/20/15 21:21	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		12/20/15 21:21	108-10-1	
Naphthalene	ND	ug/L	10.0	0.24	1		12/20/15 21:21	91-20-3	
Propionitrile	ND	ug/L	150	3.6	1		12/20/15 21:21	107-12-0	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-FIELD BLANK **Lab ID: 92279347002** Collected: 12/09/15 15:30 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Styrene	ND	ug/L	1.0	0.26	1		12/20/15 21:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		12/20/15 21:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		12/20/15 21:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/20/15 21:21	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	3.1	1		12/20/15 21:21	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		12/20/15 21:21	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	0.35	1		12/20/15 21:21	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		12/20/15 21:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		12/20/15 21:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/20/15 21:21	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		12/20/15 21:21	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		12/20/15 21:21	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		12/20/15 21:21	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/20/15 21:21	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		12/20/15 21:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		12/20/15 21:21	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		12/20/15 21:21	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		12/20/15 21:21	2037-26-5	
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D								
Sulfide	ND	ug/L	1000	100	1		12/14/15 12:30	18496-25-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E								
Cyanide	ND	ug/L	10.0	4.0	1		12/16/15 11:30	57-12-5	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-TRIP BLANK **Lab ID: 92279347003** Collected: 12/08/15 00:00 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		12/19/15 10:02	67-64-1	
Acetonitrile	ND	ug/L	55.0	2.2	1		12/19/15 10:02	75-05-8	
Acrolein	**2.8J**	ug/L	53.0	1.6	1		12/19/15 10:02	107-02-8	
Acrylonitrile	ND	ug/L	200	1.9	1		12/19/15 10:02	107-13-1	
Allyl chloride	ND	ug/L	10.0	1.5	1		12/19/15 10:02	107-05-1	
Benzene	ND	ug/L	1.0	0.25	1		12/19/15 10:02	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		12/19/15 10:02	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		12/19/15 10:02	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		12/19/15 10:02	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		12/19/15 10:02	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		12/19/15 10:02	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		12/19/15 10:02	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		12/19/15 10:02	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		12/19/15 10:02	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		12/19/15 10:02	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		12/19/15 10:02	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		12/19/15 10:02	74-87-3	
Chloroprene	ND	ug/L	20.0	0.27	1		12/19/15 10:02	126-99-8	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		12/19/15 10:02	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		12/19/15 10:02	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		12/19/15 10:02	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		12/19/15 10:02	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		12/19/15 10:02	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	0.24	1		12/19/15 10:02	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/19/15 10:02	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		12/19/15 10:02	110-57-6	
Dichlorodifluoromethane	ND	ug/L	5.0	0.21	1		12/19/15 10:02	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/19/15 10:02	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/19/15 10:02	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		12/19/15 10:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		12/19/15 10:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		12/19/15 10:02	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		12/19/15 10:02	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	0.28	1		12/19/15 10:02	142-28-9	
2,2-Dichloropropane	ND	ug/L	15.0	0.13	1		12/19/15 10:02	594-20-7	
1,1-Dichloropropene	ND	ug/L	5.0	0.49	1		12/19/15 10:02	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		12/19/15 10:02	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		12/19/15 10:02	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/19/15 10:02	100-41-4	
Ethyl methacrylate	ND	ug/L	10.0	0.20	1		12/19/15 10:02	97-63-2	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.71	1		12/19/15 10:02	87-68-3	
2-Hexanone	ND	ug/L	50.0	0.46	1		12/19/15 10:02	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		12/19/15 10:02	74-88-4	
Isobutanol	ND	ug/L	100	35.0	1		12/19/15 10:02	78-83-1	
Methacrylonitrile	ND	ug/L	100	0.93	1		12/19/15 10:02	126-98-7	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/19/15 10:02	75-09-2	

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ANALYTICAL RESULTS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Sample: 1203-TRIP BLANK **Lab ID: 92279347003** Collected: 12/08/15 00:00 Received: 12/10/15 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Methyl methacrylate	ND	ug/L	30.0	2.0	1		12/19/15 10:02	80-62-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		12/19/15 10:02	108-10-1	
Naphthalene	ND	ug/L	10.0	0.24	1		12/19/15 10:02	91-20-3	
Propionitrile	ND	ug/L	150	3.6	1		12/19/15 10:02	107-12-0	
Styrene	ND	ug/L	1.0	0.26	1		12/19/15 10:02	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		12/19/15 10:02	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		12/19/15 10:02	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/19/15 10:02	127-18-4	
Tetrahydrofuran	ND	ug/L	10.0	3.1	1		12/19/15 10:02	109-99-9	
Toluene	ND	ug/L	1.0	0.26	1		12/19/15 10:02	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	0.35	1		12/19/15 10:02	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		12/19/15 10:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		12/19/15 10:02	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/19/15 10:02	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		12/19/15 10:02	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		12/19/15 10:02	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		12/19/15 10:02	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/19/15 10:02	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		12/19/15 10:02	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	70-130		1		12/19/15 10:02	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		12/19/15 10:02	17060-07-0	
Toluene-d8 (S)	114	%	70-130		1		12/19/15 10:02	2037-26-5	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: MERP/8788 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury
Associated Lab Samples: 92279347001, 92279347002

METHOD BLANK: 1629746 | Matrix: Water
Associated Lab Samples: 92279347001, 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.10	12/17/15 17:42	

LABORATORY CONTROL SAMPLE: 1629747

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1629748 1629749

Parameter	Units	92279275008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.4	2.5	96	99	75-125	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: MPRP/20260
Analysis Method: EPA 6010
QC Batch Method: EPA 3010A
Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92279347001, 92279347002

METHOD BLANK: 1627221
Matrix: Water
Associated Lab Samples: 92279347001, 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	3.8	12/17/15 00:32	
Arsenic	ug/L	ND	10.0	2.5	12/17/15 00:32	
Barium	ug/L	ND	100	2.5	12/17/15 00:32	
Beryllium	ug/L	ND	1.0	0.50	12/17/15 00:32	
Cadmium	ug/L	ND	1.0	0.50	12/17/15 00:32	
Chromium	ug/L	ND	10.0	2.5	12/17/15 00:32	
Cobalt	ug/L	ND	10.0	2.5	12/17/15 00:32	
Copper	ug/L	ND	10.0	2.5	12/17/15 00:32	
Iron	ug/L	ND	300	25.0	12/17/15 00:32	
Lead	ug/L	ND	10.0	2.5	12/17/15 00:32	
Manganese	ug/L	ND	50.0	2.5	12/17/15 00:32	
Nickel	ug/L	ND	50.0	2.5	12/17/15 00:32	
Selenium	ug/L	ND	10.0	5.0	12/17/15 00:32	
Silver	ug/L	ND	10.0	2.5	12/17/15 00:32	
Thallium	ug/L	ND	5.5	5.0	12/17/15 00:32	
Tin	ug/L	ND	100	2.5	12/17/15 00:32	
Vanadium	ug/L	ND	25.0	2.5	12/17/15 00:32	
Zinc	ug/L	ND	10.0	5.0	12/17/15 00:32	

LABORATORY CONTROL SAMPLE: 1627222

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	547	109	80-120	
Arsenic	ug/L	500	489	98	80-120	
Barium	ug/L	500	479	96	80-120	
Beryllium	ug/L	500	472	94	80-120	
Cadmium	ug/L	500	497	99	80-120	
Chromium	ug/L	500	464	93	80-120	
Cobalt	ug/L	500	507	101	80-120	
Copper	ug/L	500	490	98	80-120	
Iron	ug/L	5000	4850	97	80-120	
Lead	ug/L	500	500	100	80-120	
Manganese	ug/L	500	511	102	80-120	
Nickel	ug/L	500	500	100	80-120	
Selenium	ug/L	500	506	101	80-120	
Silver	ug/L	250	254	102	80-120	
Thallium	ug/L	500	476	95	80-120	
Tin	ug/L	500	550	110	80-120	
Vanadium	ug/L	500	520	104	80-120	
Zinc	ug/L	500	515	103	80-120	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1627223 1627224

Parameter	Units	92279296001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	395	379	79	75	75-125	4	25	
Arsenic	ug/L	ND	500	500	464	454	92	91	75-125	2	25	
Barium	ug/L	151	500	500	621	624	94	95	75-125	0	25	
Beryllium	ug/L	2.8	500	500	462	461	92	92	75-125	0	25	
Cadmium	ug/L	ND	500	500	475	467	95	93	75-125	2	25	
Chromium	ug/L	6.9	500	500	464	458	91	90	75-125	1	25	
Cobalt	ug/L	12.0	500	500	493	484	96	95	75-125	2	25	
Copper	ug/L	14.9	500	500	496	492	96	95	75-125	1	25	
Iron	ug/L	10100	5000	5000	21800	23400	235	267	75-125	7	25	M1
Lead	ug/L	8.6	500	500	476	469	94	92	75-125	2	25	
Manganese	ug/L	133	500	500	648	642	103	102	75-125	1	25	
Nickel	ug/L	15.6	500	500	491	484	95	94	75-125	1	25	
Selenium	ug/L	ND	500	500	472	465	94	93	75-125	2	25	
Silver	ug/L	ND	250	250	245	242	98	97	75-125	1	25	
Thallium	ug/L	5.1J	500	500	443	440	88	87	75-125	1	25	
Tin	ug/L	ND	500	500	515	503	103	100	75-125	2	25	
Vanadium	ug/L	16.8	500	500	532	525	103	102	75-125	1	25	
Zinc	ug/L	35.2	500	500	542	538	101	101	75-125	1	25	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: MSV/34786 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92279347001, 92279347003

METHOD BLANK: 1633238 | Matrix: Water
Associated Lab Samples: 92279347001, 92279347003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	0.33	12/19/15 01:26	
1,1,1-Trichloroethane	ug/L	ND	1.0	0.48	12/19/15 01:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	0.40	12/19/15 01:26	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.29	12/19/15 01:26	
1,1-Dichloroethane	ug/L	ND	5.0	0.32	12/19/15 01:26	
1,1-Dichloroethene	ug/L	ND	5.0	0.56	12/19/15 01:26	
1,1-Dichloropropene	ug/L	ND	5.0	0.49	12/19/15 01:26	
1,2,3-Trichloropropane	ug/L	ND	1.0	0.41	12/19/15 01:26	
1,2,4-Trichlorobenzene	ug/L	ND	10.0	0.35	12/19/15 01:26	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	2.0	12/19/15 01:26	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	0.27	12/19/15 01:26	
1,2-Dichlorobenzene	ug/L	ND	5.0	0.30	12/19/15 01:26	
1,2-Dichloroethane	ug/L	ND	1.0	0.24	12/19/15 01:26	
1,2-Dichloropropane	ug/L	ND	1.0	0.27	12/19/15 01:26	
1,3-Dichlorobenzene	ug/L	ND	5.0	0.24	12/19/15 01:26	
1,3-Dichloropropane	ug/L	ND	1.0	0.28	12/19/15 01:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	0.33	12/19/15 01:26	
2,2-Dichloropropane	ug/L	ND	15.0	0.13	12/19/15 01:26	
2-Butanone (MEK)	ug/L	ND	100	0.96	12/19/15 01:26	
2-Hexanone	ug/L	ND	50.0	0.46	12/19/15 01:26	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	0.33	12/19/15 01:26	
Acetone	ug/L	ND	100	10.0	12/19/15 01:26	
Acetonitrile	ug/L	ND	55.0	2.2	12/19/15 01:26	
Acrolein	ug/L	ND	53.0	1.6	12/19/15 01:26	
Acrylonitrile	ug/L	ND	200	1.9	12/19/15 01:26	
Allyl chloride	ug/L	ND	10.0	1.5	12/19/15 01:26	
Benzene	ug/L	ND	1.0	0.25	12/19/15 01:26	
Bromochloromethane	ug/L	ND	3.0	0.17	12/19/15 01:26	
Bromodichloromethane	ug/L	ND	1.0	0.18	12/19/15 01:26	
Bromoform	ug/L	ND	3.0	0.26	12/19/15 01:26	
Bromomethane	ug/L	ND	10.0	0.29	12/19/15 01:26	
Carbon disulfide	ug/L	ND	100	1.2	12/19/15 01:26	
Carbon tetrachloride	ug/L	ND	1.0	0.25	12/19/15 01:26	
Chlorobenzene	ug/L	ND	3.0	0.23	12/19/15 01:26	
Chloroethane	ug/L	ND	10.0	0.54	12/19/15 01:26	
Chloroform	ug/L	ND	5.0	0.14	12/19/15 01:26	
Chloromethane	ug/L	ND	1.0	0.11	12/19/15 01:26	
Chloroprene	ug/L	ND	20.0	0.27	12/19/15 01:26	
cis-1,2-Dichloroethene	ug/L	ND	5.0	0.19	12/19/15 01:26	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	12/19/15 01:26	
Dibromochloromethane	ug/L	ND	3.0	0.21	12/19/15 01:26	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

METHOD BLANK: 1633238 Matrix: Water
Associated Lab Samples: 92279347001, 92279347003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	10.0	0.21	12/19/15 01:26	
Dichlorodifluoromethane	ug/L	ND	5.0	0.21	12/19/15 01:26	
Ethyl methacrylate	ug/L	ND	10.0	0.20	12/19/15 01:26	
Ethylbenzene	ug/L	ND	1.0	0.30	12/19/15 01:26	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	0.71	12/19/15 01:26	
Iodomethane	ug/L	ND	10.0	0.32	12/19/15 01:26	
Isobutanol	ug/L	ND	100	35.0	12/19/15 01:26	
Methacrylonitrile	ug/L	ND	100	0.93	12/19/15 01:26	
Methyl methacrylate	ug/L	ND	30.0	2.0	12/19/15 01:26	
Methylene Chloride	ug/L	ND	1.0	0.97	12/19/15 01:26	
Naphthalene	ug/L	ND	10.0	0.24	12/19/15 01:26	
Propionitrile	ug/L	ND	150	3.6	12/19/15 01:26	
Styrene	ug/L	ND	1.0	0.26	12/19/15 01:26	
Tetrachloroethene	ug/L	1.2	1.0	0.46	12/19/15 01:26	
Tetrahydrofuran	ug/L	ND	10.0	3.1	12/19/15 01:26	
Toluene	ug/L	ND	1.0	0.26	12/19/15 01:26	
trans-1,2-Dichloroethene	ug/L	ND	5.0	0.49	12/19/15 01:26	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.26	12/19/15 01:26	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	1.0	12/19/15 01:26	
Trichloroethene	ug/L	ND	1.0	0.47	12/19/15 01:26	
Trichlorofluoromethane	ug/L	ND	1.0	0.20	12/19/15 01:26	
Vinyl acetate	ug/L	ND	50.0	0.35	12/19/15 01:26	
Vinyl chloride	ug/L	ND	1.0	0.62	12/19/15 01:26	
Xylene (Total)	ug/L	ND	5.0	0.66	12/19/15 01:26	
1,2-Dichloroethane-d4 (S)	%	94	70-130		12/19/15 01:26	
4-Bromofluorobenzene (S)	%	101	70-130		12/19/15 01:26	
Toluene-d8 (S)	%	105	70-130		12/19/15 01:26	

LABORATORY CONTROL SAMPLE: 1633239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	49.4	99	80-125	
1,1,1-Trichloroethane	ug/L	50	49.3	99	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	48.9	98	79-124	
1,1,2-Trichloroethane	ug/L	50	48.9	98	85-125	
1,1-Dichloroethane	ug/L	50	47.4	95	73-126	
1,1-Dichloroethene	ug/L	50	45.8	92	66-135	
1,1-Dichloropropene	ug/L	50	48.0	96	74-135	
1,2,3-Trichloropropane	ug/L	50	48.8	98	75-130	
1,2,4-Trichlorobenzene	ug/L	50	45.0	90	75-134	
1,2-Dibromo-3-chloropropane	ug/L	50	47.4	95	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	52.2	104	83-124	
1,2-Dichlorobenzene	ug/L	50	47.5	95	80-133	
1,2-Dichloroethane	ug/L	50	45.3	91	67-128	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

LABORATORY CONTROL SAMPLE: 1633239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	50	48.9	98	75-132	
1,3-Dichlorobenzene	ug/L	50	47.7	95	77-130	
1,3-Dichloropropane	ug/L	50	50.1	100	76-131	
1,4-Dichlorobenzene	ug/L	50	48.4	97	78-130	
2,2-Dichloropropane	ug/L	50	42.1	84	40-160	
2-Butanone (MEK)	ug/L	100	112	112	61-144	
2-Hexanone	ug/L	100	105	105	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	72-135	
Acetone	ug/L	100	107	107	48-146	
Acetonitrile	ug/L	500	529	106	62-150	
Acrolein	ug/L	250	298	119	24-160	
Acrylonitrile	ug/L	250	254	101	40-160	
Allyl chloride	ug/L	50	49.1	98	66-137	
Benzene	ug/L	50	50.1	100	80-125	
Bromochloromethane	ug/L	50	50.7	101	71-125	
Bromodichloromethane	ug/L	50	46.0	92	78-124	
Bromoform	ug/L	50	39.5	79	71-128	
Bromomethane	ug/L	50	35.2	70	40-160	
Carbon disulfide	ug/L	50	46.7J	93	50-160	
Carbon tetrachloride	ug/L	50	47.3	95	69-131	
Chlorobenzene	ug/L	50	48.4	97	81-122	
Chloroethane	ug/L	50	36.6	73	39-148	
Chloroform	ug/L	50	49.9	100	73-127	
Chloromethane	ug/L	50	48.1	96	44-146	
Chloroprene	ug/L	50	55.2	110	75-145	
cis-1,2-Dichloroethene	ug/L	50	47.1	94	74-124	
cis-1,3-Dichloropropene	ug/L	50	49.8	100	72-132	
Dibromochloromethane	ug/L	50	50.0	100	78-125	
Dibromomethane	ug/L	50	49.5	99	82-120	
Dichlorodifluoromethane	ug/L	50	42.2	84	34-157	
Ethyl methacrylate	ug/L	50	47.3	95	82-121	
Ethylbenzene	ug/L	50	47.1	94	79-121	
Hexachloro-1,3-butadiene	ug/L	50	53.6	107	72-131	
Iodomethane	ug/L	100	56.4	56	39-154	
Isobutanol	ug/L	1000	1110	111	34-160	
Methacrylonitrile	ug/L	500	560	112	74-134	
Methyl methacrylate	ug/L	50	48.2	96	84-124	
Methylene Chloride	ug/L	50	55.3	111	64-133	
Naphthalene	ug/L	50	45.6	91	73-133	
Propionitrile	ug/L	500	524	105	73-140	
Styrene	ug/L	50	46.6	93	84-126	
Tetrachloroethene	ug/L	50	48.8	98	78-122	
Tetrahydrofuran	ug/L	500	546	109	69-148	
Toluene	ug/L	50	47.3	95	80-121	
trans-1,2-Dichloroethene	ug/L	50	48.5	97	71-127	
trans-1,3-Dichloropropene	ug/L	50	47.2	94	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	48.6J	97	40-160	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

LABORATORY CONTROL SAMPLE: 1633239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	50	50.6	101	78-122	
Trichlorofluoromethane	ug/L	50	42.8	86	53-137	
Vinyl acetate	ug/L	100	100	100	40-160	
Vinyl chloride	ug/L	50	49.4	99	58-137	
Xylene (Total)	ug/L	150	138	92	81-126	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			97	70-130	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: MSV/34820
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92279347002

METHOD BLANK: 1634031
Matrix: Water
Associated Lab Samples: 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	0.33	12/20/15 18:49	
1,1,1-Trichloroethane	ug/L	ND	1.0	0.48	12/20/15 18:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	0.40	12/20/15 18:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.29	12/20/15 18:49	
1,1-Dichloroethane	ug/L	ND	5.0	0.32	12/20/15 18:49	
1,1-Dichloroethene	ug/L	ND	5.0	0.56	12/20/15 18:49	
1,1-Dichloropropene	ug/L	ND	5.0	0.49	12/20/15 18:49	
1,2,3-Trichloropropane	ug/L	ND	1.0	0.41	12/20/15 18:49	
1,2,4-Trichlorobenzene	ug/L	ND	10.0	0.35	12/20/15 18:49	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	2.0	12/20/15 18:49	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	0.27	12/20/15 18:49	
1,2-Dichlorobenzene	ug/L	ND	5.0	0.30	12/20/15 18:49	
1,2-Dichloroethane	ug/L	ND	1.0	0.24	12/20/15 18:49	
1,2-Dichloropropane	ug/L	ND	1.0	0.27	12/20/15 18:49	
1,3-Dichlorobenzene	ug/L	ND	5.0	0.24	12/20/15 18:49	
1,3-Dichloropropane	ug/L	ND	1.0	0.28	12/20/15 18:49	
1,4-Dichlorobenzene	ug/L	ND	1.0	0.33	12/20/15 18:49	
2,2-Dichloropropane	ug/L	ND	15.0	0.13	12/20/15 18:49	
2-Butanone (MEK)	ug/L	ND	100	0.96	12/20/15 18:49	
2-Hexanone	ug/L	ND	50.0	0.46	12/20/15 18:49	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	0.33	12/20/15 18:49	
Acetone	ug/L	ND	100	10.0	12/20/15 18:49	
Acetonitrile	ug/L	ND	55.0	2.2	12/20/15 18:49	
Acrolein	ug/L	ND	53.0	1.6	12/20/15 18:49	
Acrylonitrile	ug/L	ND	200	1.9	12/20/15 18:49	
Allyl chloride	ug/L	ND	10.0	1.5	12/20/15 18:49	
Benzene	ug/L	ND	1.0	0.25	12/20/15 18:49	
Bromochloromethane	ug/L	ND	3.0	0.17	12/20/15 18:49	
Bromodichloromethane	ug/L	ND	1.0	0.18	12/20/15 18:49	
Bromoform	ug/L	ND	3.0	0.26	12/20/15 18:49	
Bromomethane	ug/L	ND	10.0	0.29	12/20/15 18:49	
Carbon disulfide	ug/L	ND	100	1.2	12/20/15 18:49	
Carbon tetrachloride	ug/L	ND	1.0	0.25	12/20/15 18:49	
Chlorobenzene	ug/L	ND	3.0	0.23	12/20/15 18:49	
Chloroethane	ug/L	ND	10.0	0.54	12/20/15 18:49	
Chloroform	ug/L	ND	5.0	0.14	12/20/15 18:49	
Chloromethane	ug/L	ND	1.0	0.11	12/20/15 18:49	
Chloroprene	ug/L	ND	20.0	0.27	12/20/15 18:49	
cis-1,2-Dichloroethene	ug/L	ND	5.0	0.19	12/20/15 18:49	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	12/20/15 18:49	
Dibromochloromethane	ug/L	ND	3.0	0.21	12/20/15 18:49	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

METHOD BLANK: 1634031 Matrix: Water
Associated Lab Samples: 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	10.0	0.21	12/20/15 18:49	
Dichlorodifluoromethane	ug/L	ND	5.0	0.21	12/20/15 18:49	
Ethyl methacrylate	ug/L	ND	10.0	0.20	12/20/15 18:49	
Ethylbenzene	ug/L	ND	1.0	0.30	12/20/15 18:49	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	0.71	12/20/15 18:49	
Iodomethane	ug/L	ND	10.0	0.32	12/20/15 18:49	
Isobutanol	ug/L	ND	100	35.0	12/20/15 18:49	
Methacrylonitrile	ug/L	ND	100	0.93	12/20/15 18:49	
Methyl methacrylate	ug/L	ND	30.0	2.0	12/20/15 18:49	
Methylene Chloride	ug/L	ND	1.0	0.97	12/20/15 18:49	
Naphthalene	ug/L	ND	10.0	0.24	12/20/15 18:49	
Propionitrile	ug/L	ND	150	3.6	12/20/15 18:49	
Styrene	ug/L	ND	1.0	0.26	12/20/15 18:49	
Tetrachloroethene	ug/L	ND	1.0	0.46	12/20/15 18:49	
Tetrahydrofuran	ug/L	ND	10.0	3.1	12/20/15 18:49	
Toluene	ug/L	ND	1.0	0.26	12/20/15 18:49	
trans-1,2-Dichloroethene	ug/L	ND	5.0	0.49	12/20/15 18:49	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.26	12/20/15 18:49	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	1.0	12/20/15 18:49	
Trichloroethene	ug/L	ND	1.0	0.47	12/20/15 18:49	
Trichlorofluoromethane	ug/L	ND	1.0	0.20	12/20/15 18:49	
Vinyl acetate	ug/L	ND	50.0	0.35	12/20/15 18:49	
Vinyl chloride	ug/L	ND	1.0	0.62	12/20/15 18:49	
Xylene (Total)	ug/L	ND	5.0	0.66	12/20/15 18:49	
1,2-Dichloroethane-d4 (S)	%	92	70-130		12/20/15 18:49	
4-Bromofluorobenzene (S)	%	102	70-130		12/20/15 18:49	
Toluene-d8 (S)	%	111	70-130		12/20/15 18:49	

LABORATORY CONTROL SAMPLE: 1634032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.0	100	80-125	
1,1,1-Trichloroethane	ug/L	50	52.5	105	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	50.0	100	79-124	
1,1,2-Trichloroethane	ug/L	50	52.3	105	85-125	
1,1-Dichloroethane	ug/L	50	47.9	96	73-126	
1,1-Dichloroethene	ug/L	50	48.1	96	66-135	
1,1-Dichloropropene	ug/L	50	50.9	102	74-135	
1,2,3-Trichloropropane	ug/L	50	51.1	102	75-130	
1,2,4-Trichlorobenzene	ug/L	50	46.2	92	75-134	
1,2-Dibromo-3-chloropropane	ug/L	50	47.9	96	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	53.9	108	83-124	
1,2-Dichlorobenzene	ug/L	50	47.1	94	80-133	
1,2-Dichloroethane	ug/L	50	45.2	90	67-128	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

LABORATORY CONTROL SAMPLE: 1634032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	50	48.2	96	75-132	
1,3-Dichlorobenzene	ug/L	50	48.2	96	77-130	
1,3-Dichloropropane	ug/L	50	51.5	103	76-131	
1,4-Dichlorobenzene	ug/L	50	49.6	99	78-130	
2,2-Dichloropropane	ug/L	50	48.6	97	40-160	
2-Butanone (MEK)	ug/L	100	109	109	61-144	
2-Hexanone	ug/L	100	99.3	99	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	72-135	
Acetone	ug/L	100	104	104	48-146	
Acetonitrile	ug/L	500	549	110	62-150	
Acrolein	ug/L	250	305	122	24-160	
Acrylonitrile	ug/L	250	260	104	40-160	
Allyl chloride	ug/L	50	52.4	105	66-137	
Benzene	ug/L	50	53.5	107	80-125	
Bromochloromethane	ug/L	50	53.3	107	71-125	
Bromodichloromethane	ug/L	50	49.4	99	78-124	
Bromoform	ug/L	50	40.3	81	71-128	
Bromomethane	ug/L	50	40.0	80	40-160	
Carbon disulfide	ug/L	50	50.5J	101	50-160	
Carbon tetrachloride	ug/L	50	50.3	101	69-131	
Chlorobenzene	ug/L	50	49.3	99	81-122	
Chloroethane	ug/L	50	43.6	87	39-148	
Chloroform	ug/L	50	49.8	100	73-127	
Chloromethane	ug/L	50	50.0	100	44-146	
Chloroprene	ug/L	50	55.7	111	75-145	
cis-1,2-Dichloroethene	ug/L	50	48.3	97	74-124	
cis-1,3-Dichloropropene	ug/L	50	52.6	105	72-132	
Dibromochloromethane	ug/L	50	51.2	102	78-125	
Dibromomethane	ug/L	50	52.2	104	82-120	
Dichlorodifluoromethane	ug/L	50	42.4	85	34-157	
Ethyl methacrylate	ug/L	50	45.7	91	82-121	
Ethylbenzene	ug/L	50	48.9	98	79-121	
Hexachloro-1,3-butadiene	ug/L	50	54.5	109	72-131	
Iodomethane	ug/L	100	78.3	78	39-154	
Isobutanol	ug/L	1000	973	97	34-160	
Methacrylonitrile	ug/L	500	541	108	74-134	
Methyl methacrylate	ug/L	50	45.8	92	84-124	
Methylene Chloride	ug/L	50	58.3	117	64-133	
Naphthalene	ug/L	50	44.7	89	73-133	
Propionitrile	ug/L	500	525	105	73-140	
Styrene	ug/L	50	49.4	99	84-126	
Tetrachloroethene	ug/L	50	48.9	98	78-122	
Tetrahydrofuran	ug/L	500	540	108	69-148	
Toluene	ug/L	50	48.6	97	80-121	
trans-1,2-Dichloroethene	ug/L	50	50.1	100	71-127	
trans-1,3-Dichloropropene	ug/L	50	49.8	100	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	46.0J	92	40-160	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

LABORATORY CONTROL SAMPLE: 1634032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	50	52.9	106	78-122	
Trichlorofluoromethane	ug/L	50	46.3	93	53-137	
Vinyl acetate	ug/L	100	101	101	40-160	
Vinyl chloride	ug/L	50	50.0	100	58-137	
Xylene (Total)	ug/L	150	144	96	81-126	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: OEXT/39722 | Analysis Method: EPA 8081
QC Batch Method: EPA 3510 | Analysis Description: 8081A GCS Pesticides
Associated Lab Samples: 92279347001, 92279347002

METHOD BLANK: 1628876 | Matrix: Water
Associated Lab Samples: 92279347001, 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
4,4'-DDD	ug/L	ND	0.10	0.050	12/15/15 13:32	
4,4'-DDE	ug/L	ND	0.10	0.050	12/15/15 13:32	
4,4'-DDT	ug/L	ND	0.10	0.050	12/15/15 13:32	
Aldrin	ug/L	ND	0.050	0.050	12/15/15 13:32	
alpha-BHC	ug/L	ND	0.050	0.050	12/15/15 13:32	
beta-BHC	ug/L	ND	0.050	0.050	12/15/15 13:32	
Chlordane (Technical)	ug/L	ND	0.50	0.20	12/15/15 13:32	
delta-BHC	ug/L	ND	0.050	0.050	12/15/15 13:32	
Dieldrin	ug/L	ND	0.075	0.050	12/15/15 13:32	
Endosulfan I	ug/L	ND	0.10	0.050	12/15/15 13:32	
Endosulfan II	ug/L	ND	0.10	0.050	12/15/15 13:32	
Endosulfan sulfate	ug/L	ND	0.10	0.050	12/15/15 13:32	
Endrin	ug/L	ND	0.10	0.050	12/15/15 13:32	
Endrin aldehyde	ug/L	ND	0.10	0.050	12/15/15 13:32	
gamma-BHC (Lindane)	ug/L	ND	0.050	0.050	12/15/15 13:32	
Heptachlor	ug/L	ND	0.050	0.050	12/15/15 13:32	
Heptachlor epoxide	ug/L	ND	0.075	0.050	12/15/15 13:32	
Methoxychlor	ug/L	ND	1.0	0.15	12/15/15 13:32	
Toxaphene	ug/L	ND	1.5	0.20	12/15/15 13:32	
Decachlorobiphenyl (S)	%	67	20-130		12/15/15 13:32	
Tetrachloro-m-xylene (S)	%	83	20-130		12/15/15 13:32	

LABORATORY CONTROL SAMPLE: 1628877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4,4'-DDD	ug/L	.25	0.24	98	20-150	
4,4'-DDE	ug/L	.25	0.24	95	20-150	
4,4'-DDT	ug/L	.25	0.26	104	20-150	
Aldrin	ug/L	.25	0.22	88	20-150	
alpha-BHC	ug/L	.25	0.23	92	20-150	
beta-BHC	ug/L	.25	0.24	95	20-150	
delta-BHC	ug/L	.25	0.25	99	20-150	
Dieldrin	ug/L	.25	0.24	98	20-150	
Endosulfan I	ug/L	.25	0.24	96	20-150	
Endosulfan II	ug/L	.25	0.25	99	20-150	
Endosulfan sulfate	ug/L	.25	0.25	101	20-150	
Endrin	ug/L	.25	0.25	102	20-150	
Endrin aldehyde	ug/L	.25	0.23	94	20-150	
gamma-BHC (Lindane)	ug/L	.25	0.23	94	20-150	
Heptachlor	ug/L	.25	0.22	88	20-150	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

LABORATORY CONTROL SAMPLE: 1628877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Heptachlor epoxide	ug/L	.25	0.23	95	20-150	
Methoxychlor	ug/L	.74	0.75J	101	20-150	
Decachlorobiphenyl (S)	%			78	20-130	
Tetrachloro-m-xylene (S)	%			90	20-130	

MATRIX SPIKE SAMPLE: 1628878

Parameter	Units	92279302002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
4,4'-DDD	ug/L	ND	.25	0.20	81	20-150	
4,4'-DDE	ug/L	ND	.25	0.20	80	20-150	
4,4'-DDT	ug/L	ND	.25	0.21	83	20-150	
Aldrin	ug/L	ND	.25	0.18	71	20-150	
alpha-BHC	ug/L	ND	.25	0.20	79	20-150	
beta-BHC	ug/L	ND	.25	0.21	84	20-150	
delta-BHC	ug/L	ND	.25	0.21	86	20-150	
Dieldrin	ug/L	ND	.25	0.20	81	20-150	
Endosulfan I	ug/L	ND	.25	0.20	79	20-150	
Endosulfan II	ug/L	ND	.25	0.21	84	20-150	
Endosulfan sulfate	ug/L	ND	.25	0.21	83	20-150	
Endrin	ug/L	ND	.25	0.20	81	20-150	
Endrin aldehyde	ug/L	ND	.25	0.19	79	20-150	
gamma-BHC (Lindane)	ug/L	ND	.25	0.20	81	20-150	
Heptachlor	ug/L	ND	.25	0.18	71	20-150	
Heptachlor epoxide	ug/L	ND	.25	0.19	78	20-150	
Methoxychlor	ug/L	ND	.74	0.61J	82	20-150	
Decachlorobiphenyl (S)	%				77	20-130	
Tetrachloro-m-xylene (S)	%				72	20-130	

SAMPLE DUPLICATE: 1628879

Parameter	Units	92279304003 Result	Dup Result	RPD	Max RPD	Qualifiers
4,4'-DDD	ug/L	ND	ND		30	
4,4'-DDE	ug/L	ND	ND		30	
4,4'-DDT	ug/L	ND	ND		30	
Aldrin	ug/L	ND	ND		30	
alpha-BHC	ug/L	ND	ND		30	
beta-BHC	ug/L	ND	ND		30	
Chlordane (Technical)	ug/L	ND	ND		30	
delta-BHC	ug/L	ND	ND		30	
Dieldrin	ug/L	ND	ND		30	
Endosulfan I	ug/L	ND	ND		30	
Endosulfan II	ug/L	ND	ND		30	
Endosulfan sulfate	ug/L	ND	ND		30	
Endrin	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

SAMPLE DUPLICATE: 1628879

Parameter	Units	92279304003 Result	Dup Result	RPD	Max RPD	Qualifiers
Endrin aldehyde	ug/L	ND	ND		30	
gamma-BHC (Lindane)	ug/L	ND	ND		30	
Heptachlor	ug/L	ND	ND		30	
Heptachlor epoxide	ug/L	ND	ND		30	
Methoxychlor	ug/L	ND	ND		30	
Toxaphene	ug/L	ND	ND		30	
Decachlorobiphenyl (S)	%	71	84	16		
Tetrachloro-m-xylene (S)	%	52	50	5		

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: OEXT/39678 | Analysis Method: EPA 8082
QC Batch Method: EPA 3510 | Analysis Description: 8082 GCS PCB
Associated Lab Samples: 92279347001, 92279347002

METHOD BLANK: 1627957 | Matrix: Water
Associated Lab Samples: 92279347001, 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	ND	0.50	0.50	12/15/15 05:04	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.50	0.50	12/15/15 05:04	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.50	0.50	12/15/15 05:04	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.50	0.50	12/15/15 05:04	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.50	0.50	12/15/15 05:04	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.50	0.50	12/15/15 05:04	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.50	0.50	12/15/15 05:04	
Decachlorobiphenyl (S)	%	85	10-132		12/15/15 05:04	

LABORATORY CONTROL SAMPLE: 1627958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	5	4.2	83	50-150	
PCB-1260 (Aroclor 1260)	ug/L	5	4.5	90	50-150	
Decachlorobiphenyl (S)	%			90	10-132	

MATRIX SPIKE SAMPLE: 1627959

Parameter	Units	92279347001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	ND	5	3.4	67	50-150	
PCB-1260 (Aroclor 1260)	ug/L	ND	5	3.6	72	50-150	
Decachlorobiphenyl (S)	%				79	10-132	

SAMPLE DUPLICATE: 1627960

Parameter	Units	92279347002 Result	Dup Result	RPD	Max RPD	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	ND	ND		30	
PCB-1221 (Aroclor 1221)	ug/L	ND	ND		30	
PCB-1232 (Aroclor 1232)	ug/L	ND	ND		30	
PCB-1242 (Aroclor 1242)	ug/L	ND	ND		30	
PCB-1248 (Aroclor 1248)	ug/L	ND	ND		30	
PCB-1254 (Aroclor 1254)	ug/L	ND	ND		30	
PCB-1260 (Aroclor 1260)	ug/L	ND	ND		30	
Decachlorobiphenyl (S)	%	57	66	14		

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: OEXT/25723 | Analysis Method: EPA 8151
QC Batch Method: EPA 8151 | Analysis Description: 8151A GCS Herbicides
Associated Lab Samples: 92279347001, 92279347002

METHOD BLANK: 1420527 | Matrix: Water
Associated Lab Samples: 92279347001, 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-T	ug/L	ND	0.19	0.042	12/17/15 17:07	
2,4,5-TP (Silvex)	ug/L	ND	0.19	0.049	12/17/15 17:07	
2,4-D	ug/L	ND	0.94	0.22	12/17/15 17:07	
Dinoseb	ug/L	ND	0.19	0.057	12/17/15 17:07	
2,4-DCAA (S)	%	53	36-130		12/17/15 17:07	

LABORATORY CONTROL SAMPLE: 1420528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-T	ug/L	1.2	0.79	66	40-130	
2,4,5-TP (Silvex)	ug/L	1.2	1.1	94	58-130	
2,4-D	ug/L	6	3.7	62	42-134	
Dinoseb	ug/L	1.2	0.84	70	10-157	
2,4-DCAA (S)	%			77	36-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1424270 1424271

Parameter	Units	92279201003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-T	ug/L	ND	1.2	1.2	1.1	0.74	88	62	40-130	35	40	
2,4,5-TP (Silvex)	ug/L	ND	1.2	1.2	1.2	0.83	104	69	58-130	40	40	
2,4-D	ug/L	ND	6	6	5.3	3.6	88	59	42-134	39	40	
Dinoseb	ug/L	ND	1.2	1.2	0.88	0.58	73	48	10-157	41	40	R1
2,4-DCAA (S)	%						81	58	36-130		40	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: OEXT/39746 | Analysis Method: EPA 8270
QC Batch Method: EPA 3510 | Analysis Description: 8270 Water MSSV
Associated Lab Samples: 92279347001, 92279347002

METHOD BLANK: 1629825 | Matrix: Water
Associated Lab Samples: 92279347001, 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	ND	10.0	1.7	12/21/15 16:14	
1,3,5-Trinitrobenzene	ug/L	ND	10.0	1.1	12/21/15 16:14	
1,3-Dinitrobenzene	ug/L	ND	20.0	1.5	12/21/15 16:14	
1,4-Naphthoquinone	ug/L	ND	10.0	1.8	12/21/15 16:14	
1-Naphthalenamine	ug/L	ND	10.0	0.96	12/21/15 16:14	
2,3,4,6-Tetrachlorophenol	ug/L	ND	10.0	2.3	12/21/15 16:14	
2,4,5-Trichlorophenol	ug/L	ND	10.0	2.2	12/21/15 16:14	
2,4,6-Trichlorophenol	ug/L	ND	10.0	1.9	12/21/15 16:14	
2,4-Dichlorophenol	ug/L	ND	10.0	1.7	12/21/15 16:14	
2,4-Dimethylphenol	ug/L	ND	10.0	2.2	12/21/15 16:14	
2,4-Dinitrophenol	ug/L	ND	50.0	6.5	12/21/15 16:14	
2,4-Dinitrotoluene	ug/L	ND	10.0	1.2	12/21/15 16:14	
2,6-Dichlorophenol	ug/L	ND	10.0	1.8	12/21/15 16:14	
2,6-Dinitrotoluene	ug/L	ND	10.0	1.7	12/21/15 16:14	
2-Acetylaminofluorene	ug/L	ND	20.0	0.84	12/21/15 16:14	
2-Chloronaphthalene	ug/L	ND	10.0	2.2	12/21/15 16:14	
2-Chlorophenol	ug/L	ND	10.0	1.5	12/21/15 16:14	
2-Methylnaphthalene	ug/L	ND	10.0	0.28	12/21/15 16:14	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	1.7	12/21/15 16:14	
2-Naphthalenamine	ug/L	ND	10.0	0.98	12/21/15 16:14	
2-Nitroaniline	ug/L	ND	50.0	2.8	12/21/15 16:14	
2-Nitrophenol	ug/L	ND	10.0	1.7	12/21/15 16:14	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	10.0	1.7	12/21/15 16:14	
3,3'-Dichlorobenzidine	ug/L	ND	20.0	1.4	12/21/15 16:14	
3,3'-Dimethylbenzidine	ug/L	ND	10.0	2.1	12/21/15 16:14	
3-Methylcholanthrene	ug/L	ND	10.0	0.82	12/21/15 16:14	
3-Nitroaniline	ug/L	ND	50.0	2.4	12/21/15 16:14	
4,6-Dinitro-2-methylphenol	ug/L	ND	50.0	1.7	12/21/15 16:14	
4-Aminobiphenyl	ug/L	ND	20.0	0.92	12/21/15 16:14	
4-Bromophenylphenyl ether	ug/L	ND	10.0	1.3	12/21/15 16:14	
4-Chloro-3-methylphenol	ug/L	ND	20.0	4.2	12/21/15 16:14	
4-Chloroaniline	ug/L	ND	20.0	3.4	12/21/15 16:14	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	2.1	12/21/15 16:14	
4-Nitroaniline	ug/L	ND	20.0	2.5	12/21/15 16:14	
4-Nitrophenol	ug/L	ND	50.0	5.8	12/21/15 16:14	
5-Nitro-o-toluidine	ug/L	ND	10.0	1.2	12/21/15 16:14	
7,12-Dimethylbenz(a)anthracene	ug/L	ND	10.0	0.77	12/21/15 16:14	
Acenaphthene	ug/L	ND	10.0	0.25	12/21/15 16:14	
Acenaphthylene	ug/L	ND	10.0	0.21	12/21/15 16:14	
Acetophenone	ug/L	ND	10.0	2.0	12/21/15 16:14	
Anthracene	ug/L	ND	10.0	0.14	12/21/15 16:14	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

METHOD BLANK: 1629825 Matrix: Water
Associated Lab Samples: 92279347001, 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzo(a)anthracene	ug/L	ND	10.0	0.33	12/21/15 16:14	
Benzo(a)pyrene	ug/L	ND	10.0	0.30	12/21/15 16:14	
Benzo(b)fluoranthene	ug/L	ND	10.0	0.28	12/21/15 16:14	
Benzo(g,h,i)perylene	ug/L	ND	10.0	0.38	12/21/15 16:14	
Benzo(k)fluoranthene	ug/L	ND	10.0	0.43	12/21/15 16:14	
Benzyl alcohol	ug/L	ND	20.0	3.4	12/21/15 16:14	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	1.7	12/21/15 16:14	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	1.5	12/21/15 16:14	
bis(2-Chloroisopropyl) ether	ug/L	ND	10.0	1.6	12/21/15 16:14	
bis(2-Ethylhexyl)phthalate	ug/L	ND	15.0	0.85	12/21/15 16:14	
Butylbenzylphthalate	ug/L	ND	10.0	0.75	12/21/15 16:14	
Chlorobenzilate	ug/L	ND	10.0	0.72	12/21/15 16:14	
Chrysene	ug/L	ND	10.0	0.21	12/21/15 16:14	
Di-n-butylphthalate	ug/L	ND	10.0	1.1	12/21/15 16:14	
Di-n-octylphthalate	ug/L	ND	10.0	0.86	12/21/15 16:14	
Diallate	ug/L	ND	10.0	1.3	12/21/15 16:14	
Dibenz(a,h)anthracene	ug/L	ND	10.0	0.55	12/21/15 16:14	
Dibenzofuran	ug/L	ND	10.0	1.8	12/21/15 16:14	
Diethylphthalate	ug/L	ND	6000	1.3	12/21/15 16:14	
Dimethoate	ug/L	ND	20.0	0.92	12/21/15 16:14	
Dimethylphthalate	ug/L	ND	10.0	1.5	12/21/15 16:14	
Diphenylamine	ug/L	ND	10.0	1.3	12/21/15 16:14	
Disulfoton	ug/L	ND	10.0	1.4	12/21/15 16:14	
Ethyl methanesulfonate	ug/L	ND	20.0	1.8	12/21/15 16:14	
Famphur	ug/L	ND	20.0	1.7	12/21/15 16:14	
Fluoranthene	ug/L	ND	10.0	0.21	12/21/15 16:14	
Fluorene	ug/L	ND	10.0	0.21	12/21/15 16:14	
Hexachlorobenzene	ug/L	ND	10.0	1.1	12/21/15 16:14	
Hexachlorocyclopentadiene	ug/L	ND	10.0	1.8	12/21/15 16:14	
Hexachloroethane	ug/L	ND	10.0	1.5	12/21/15 16:14	
Hexachloropropene	ug/L	ND	10.0	1.6	12/21/15 16:14	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	0.29	12/21/15 16:14	
Isodrin	ug/L	ND	20.0	2.0	12/21/15 16:14	
Isophorone	ug/L	ND	10.0	1.8	12/21/15 16:14	
Isosafrole	ug/L	ND	10.0	1.8	12/21/15 16:14	
Kepone	ug/L	ND	20.0	3.1	12/21/15 16:14	
Methapyrilene	ug/L	ND	100	2.7	12/21/15 16:14	
Methyl methanesulfonate	ug/L	ND	10.0	1.3	12/21/15 16:14	
Methyl parathion	ug/L	ND	10.0	1.1	12/21/15 16:14	
N-Nitroso-di-n-butylamine	ug/L	ND	10.0	2.2	12/21/15 16:14	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	2.1	12/21/15 16:14	
N-Nitrosodiethylamine	ug/L	ND	20.0	1.8	12/21/15 16:14	
N-Nitrosodimethylamine	ug/L	ND	10.0	1.3	12/21/15 16:14	
N-Nitrosodiphenylamine	ug/L	ND	10.0	1.3	12/21/15 16:14	
N-Nitrosomethylethylamine	ug/L	ND	10.0	1.8	12/21/15 16:14	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

METHOD BLANK: 1629825 Matrix: Water
Associated Lab Samples: 92279347001, 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
N-Nitrosopiperidine	ug/L	ND	20.0	1.9	12/21/15 16:14	
N-Nitrosopyrrolidine	ug/L	ND	10.0	2.5	12/21/15 16:14	
Nitrobenzene	ug/L	ND	10.0	1.7	12/21/15 16:14	
O,O,O-Triethylphosphorothioate	ug/L	ND	10.0	1.8	12/21/15 16:14	
O-Toluidine	ug/L	ND	10.0	1.6	12/21/15 16:14	
P-Dimethylaminoazobenzene	ug/L	ND	10.0	0.35	12/21/15 16:14	
p-Phenylenediamine	ug/L	ND	10.0	0.96	12/21/15 16:14	
Parathion (Ethyl parathion)	ug/L	ND	10.0	1.1	12/21/15 16:14	
Pentachlorobenzene	ug/L	ND	10.0	2.0	12/21/15 16:14	
Pentachloronitrobenzene	ug/L	ND	20.0	1.0	12/21/15 16:14	
Pentachlorophenol	ug/L	ND	25.0	2.3	12/21/15 16:14	
Phenacetin	ug/L	ND	20.0	0.97	12/21/15 16:14	
Phenanthrene	ug/L	ND	10.0	0.22	12/21/15 16:14	
Phenol	ug/L	ND	10.0	1.7	12/21/15 16:14	
Phorate	ug/L	ND	10.0	1.1	12/21/15 16:14	
Pronamide	ug/L	ND	10.0	0.97	12/21/15 16:14	
Pyrene	ug/L	ND	10.0	0.19	12/21/15 16:14	
Safrole	ug/L	ND	10.0	1.5	12/21/15 16:14	
Thionazin	ug/L	ND	20.0	1.2	12/21/15 16:14	
2,4,6-Tribromophenol (S)	%	94	27-110		12/21/15 16:14	
2-Fluorobiphenyl (S)	%	73	27-110		12/21/15 16:14	
2-Fluorophenol (S)	%	38	12-110		12/21/15 16:14	
Nitrobenzene-d5 (S)	%	84	21-110		12/21/15 16:14	
Phenol-d6 (S)	%	21	10-110		12/21/15 16:14	
Terphenyl-d14 (S)	%	97	31-107		12/21/15 16:14	

LABORATORY CONTROL SAMPLE: 1629826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	50	28.6	57	16-129	
1,3,5-Trinitrobenzene	ug/L	50	64.1	128	55-125	L0
1,3-Dinitrobenzene	ug/L	50	42.8	86	30-122	
1,4-Naphthoquinone	ug/L	50	35.6	71	31-120	
1-Naphthalenamine	ug/L	50	31.1	62	37-126	
2,3,4,6-Tetrachlorophenol	ug/L	50	91.3	183	54-276	
2,4,5-Trichlorophenol	ug/L	50	34.7	69	43-113	
2,4,6-Trichlorophenol	ug/L	50	35.8	72	42-120	
2,4-Dichlorophenol	ug/L	50	51.4	103	30-120	
2,4-Dimethylphenol	ug/L	50	41.8	84	29-111	
2,4-Dinitrophenol	ug/L	250	263	105	19-132	
2,4-Dinitrotoluene	ug/L	50	51.2	102	58-128	
2,6-Dichlorophenol	ug/L	50	45.7	91	54-128	
2,6-Dinitrotoluene	ug/L	50	41.4	83	54-129	
2-Acetylaminofluorene	ug/L	50	49.0	98	81-160	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

LABORATORY CONTROL SAMPLE: 1629826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Chloronaphthalene	ug/L	50	34.7	69	43-117	
2-Chlorophenol	ug/L	50	34.4	69	37-120	
2-Methylnaphthalene	ug/L	50	35.8	72	33-120	
2-Methylphenol(o-Cresol)	ug/L	50	21.8	44	31-120	
2-Naphthalenamine	ug/L	50	36.0	72	41-136	
2-Nitroaniline	ug/L	100	51.0	51	48-121	
2-Nitrophenol	ug/L	50	48.2	96	25-116	
3&4-Methylphenol(m&p Cresol)	ug/L	50	51.2	102	23-120	
3,3'-Dichlorobenzidine	ug/L	250	89.4	36	10-154	
3,3'-Dimethylbenzidine	ug/L	100	10.4	10	10-157	
3-Methylcholanthrene	ug/L	50	42.2	84	65-130	
3-Nitroaniline	ug/L	100	95.2	95	43-115	
4,6-Dinitro-2-methylphenol	ug/L	100	101	101	44-124	
4-Aminobiphenyl	ug/L	50	33.0	66	21-125	
4-Bromophenylphenyl ether	ug/L	50	46.2	92	34-113	
4-Chloro-3-methylphenol	ug/L	100	80.9	81	31-110	
4-Chloroaniline	ug/L	100	68.3	68	20-120	
4-Chlorophenylphenyl ether	ug/L	50	32.5	65	34-116	
4-Nitroaniline	ug/L	100	73.8	74	46-128	
4-Nitrophenol	ug/L	250	104	42	11-120	
5-Nitro-o-toluidine	ug/L	50	44.3	89	78-160	
7,12-Dimethylbenz(a)anthracene	ug/L	50	47.3	95	47-124	
Acenaphthene	ug/L	50	43.6	87	48-114	
Acenaphthylene	ug/L	50	40.8	82	48-112	
Acetophenone	ug/L	50	27.9	56	24-120	
Anthracene	ug/L	50	48.4	97	57-118	
Benzo(a)anthracene	ug/L	50	49.5	99	56-121	
Benzo(a)pyrene	ug/L	50	46.8	94	55-127	
Benzo(b)fluoranthene	ug/L	50	42.4	85	53-128	
Benzo(g,h,i)perylene	ug/L	50	37.1	74	54-125	
Benzo(k)fluoranthene	ug/L	50	51.9	104	51-123	
Benzyl alcohol	ug/L	100	60.9	61	27-120	
bis(2-Chloroethoxy)methane	ug/L	50	48.2	96	32-120	
bis(2-Chloroethyl) ether	ug/L	50	29.7	59	33-111	
bis(2-Chloroisopropyl) ether	ug/L	50	11.6	23	15-120	
bis(2-Ethylhexyl)phthalate	ug/L	50	58.7	117	50-145	
Butylbenzylphthalate	ug/L	50	58.2	116	54-138	
Chlorobenzilate	ug/L	50	55.9	112	65-132	
Chrysene	ug/L	50	48.9	98	58-127	
Di-n-butylphthalate	ug/L	50	59.5	119	56-125	
Di-n-octylphthalate	ug/L	50	52.2	104	50-134	
Diallate	ug/L	50	47.4	95	47-123	
Dibenz(a,h)anthracene	ug/L	50	36.9	74	53-129	
Dibenzofuran	ug/L	50	43.2	86	45-120	
Diethylphthalate	ug/L	50	41.6J	83	53-120	
Dimethoate	ug/L	50	46.2	92	57-139	
Dimethylphthalate	ug/L	50	37.0	74	55-116	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

LABORATORY CONTROL SAMPLE: 1629826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diphenylamine	ug/L	50	47.0	94	42-120	
Disulfoton	ug/L	50	45.5	91	49-156	
Ethyl methanesulfonate	ug/L	50	42.2	84	43-120	
Famphur	ug/L	100	73.0	73	40-160	
Fluoranthene	ug/L	50	64.6	129	57-125	L0
Fluorene	ug/L	50	36.6	73	53-118	
Hexachlorobenzene	ug/L	50	51.2	102	49-116	
Hexachlorocyclopentadiene	ug/L	50	16.9	34	26-158	
Hexachloroethane	ug/L	50	32.0	64	30-114	
Hexachloropropene	ug/L	50	30.8	62	13-137	
Indeno(1,2,3-cd)pyrene	ug/L	50	37.3	75	55-128	
Isodrin	ug/L	50	66.4	133	68-129	L0
Isophorone	ug/L	50	42.0	84	31-118	
Isosafrole	ug/L	50	34.0	68	48-107	
Kepone	ug/L	100	39.2	39	10-124	
Methapyrilene	ug/L	50	3.6J	7	40-160	L0
Methyl methanesulfonate	ug/L	50	23.6	47	25-114	
Methyl parathion	ug/L	50	52.7	105	58-137	
N-Nitroso-di-n-butylamine	ug/L	50	32.5	65	36-115	
N-Nitroso-di-n-propylamine	ug/L	50	24.8	50	32-119	
N-Nitrosodiethylamine	ug/L	50	40.3	81	47-115	
N-Nitrosodimethylamine	ug/L	50	19.2	38	13-120	
N-Nitrosodiphenylamine	ug/L	50	47.0	94	43-120	
N-Nitrosomethylethylamine	ug/L	50	31.7	63	39-120	
N-Nitrosopiperidine	ug/L	50	55.2	110	43-113	
N-Nitrosopyrrolidine	ug/L	50	32.1	64	32-110	
Nitrobenzene	ug/L	50	40.7	81	33-110	
O,O,O-Triethylphosphorothioate	ug/L	50	49.4	99	51-127	
O-Toluidine	ug/L	50	31.0	62	27-120	
P-Dimethylaminoazobenzene	ug/L	100	27.3	27	10-120	
p-Phenylenediamine	ug/L	50	50.4	101	72-143	
Parathion (Ethyl parathion)	ug/L	50	51.5	103	56-140	
Pentachlorobenzene	ug/L	50	42.6	85	30-137	
Pentachloronitrobenzene	ug/L	50	55.5	111	70-124	
Pentachlorophenol	ug/L	250	92.5	37	10-137	
Phenacetin	ug/L	50	51.3	103	60-130	
Phenanthrene	ug/L	50	46.4	93	57-117	
Phenol	ug/L	50	15.2	30	10-120	
Phorate	ug/L	50	63.4	127	55-126	L0
Pronamide	ug/L	50	60.4	121	75-124	
Pyrene	ug/L	50	56.2	112	55-122	
Safrole	ug/L	50	39.0	78	41-120	
Thionazin	ug/L	50	36.7	73	63-137	
2,4,6-Tribromophenol (S)	%			115	27-110	S0
2-Fluorobiphenyl (S)	%			62	27-110	
2-Fluorophenol (S)	%			38	12-110	
Nitrobenzene-d5 (S)	%			95	21-110	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

LABORATORY CONTROL SAMPLE: 1629826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenol-d6 (S)	%			26	10-110	
Terphenyl-d14 (S)	%			104	31-107	

MATRIX SPIKE SAMPLE: 1629827

Parameter	Units	92278963015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	ND	50	28.4	57	50-150	
1,3,5-Trinitrobenzene	ug/L	ND	50	57.1	114	50-150	
1,3-Dinitrobenzene	ug/L	ND	50	45.4	91	50-150	
1,4-Naphthoquinone	ug/L	ND	50	35.9	72	50-150	
1-Naphthalenamine	ug/L	ND	50	27.5	55	50-150	
2,3,4,6-Tetrachlorophenol	ug/L	ND	50	66.0	132	50-150	
2,4,5-Trichlorophenol	ug/L	ND	50	30.1	60	19-105	
2,4,6-Trichlorophenol	ug/L	ND	50	30.7	61	13-108	
2,4-Dichlorophenol	ug/L	ND	50	32.6	65	29-111	
2,4-Dimethylphenol	ug/L	ND	50	28.0	56	21-103	
2,4-Dinitrophenol	ug/L	ND	250	126	50	10-109	
2,4-Dinitrotoluene	ug/L	ND	50	42.8	86	27-104	
2,6-Dichlorophenol	ug/L	ND	50	43.3	87	50-150	
2,6-Dinitrotoluene	ug/L	ND	50	43.8	88	28-101	
2-Acetylaminofluorene	ug/L	ND	50	45.3	91	50-150	
2-Chloronaphthalene	ug/L	ND	50	32.9	66	14-102	
2-Chlorophenol	ug/L	ND	50	37.0	74	16-110	
2-Methylnaphthalene	ug/L	ND	50	29.8	60	13-110	
2-Methylphenol(o-Cresol)	ug/L	ND	50	32.9	66	19-110	
2-Naphthalenamine	ug/L	ND	50	29.7	59	50-150	
2-Nitroaniline	ug/L	ND	100	44.5J	45	26-103	
2-Nitrophenol	ug/L	ND	50	32.2	64	20-110	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	67.1	134	20-110	M1
3,3'-Dichlorobenzidine	ug/L	ND	250	88.3	35	25-112	
3,3'-Dimethylbenzidine	ug/L	ND	100	58.1	58	50-150	
3-Methylcholanthrene	ug/L	5.4J	50	44.2	77	50-150	
3-Nitroaniline	ug/L	ND	100	79.0	79	29-110	
4,6-Dinitro-2-methylphenol	ug/L	ND	100	84.3	84	10-117	
4-Aminobiphenyl	ug/L	ND	50	41.8	84	50-150	
4-Bromophenylphenyl ether	ug/L	ND	50	40.6	81	20-105	
4-Chloro-3-methylphenol	ug/L	ND	100	64.6	65	22-110	
4-Chloroaniline	ug/L	ND	100	71.4	71	20-100	
4-Chlorophenylphenyl ether	ug/L	ND	50	30.8	62	19-102	
4-Nitroaniline	ug/L	ND	100	67.3	67	29-110	
4-Nitrophenol	ug/L	ND	250	62.9	25	10-110	
5-Nitro-o-toluidine	ug/L	ND	50	39.0	78	50-150	
7,12-Dimethylbenz(a)anthracene	ug/L	ND	50	49.9	100	50-150	
Acenaphthene	ug/L	ND	50	41.3	83	17-100	
Acenaphthylene	ug/L	ND	50	41.3	83	21-100	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

MATRIX SPIKE SAMPLE: 1629827

Parameter	Units	92278963015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetophenone	ug/L	ND	50	41.6	83	50-150	
Anthracene	ug/L	ND	50	44.4	89	24-109	
Benzo(a)anthracene	ug/L	ND	50	45.8	92	22-117	
Benzo(a)pyrene	ug/L	ND	50	45.0	90	23-104	
Benzo(b)fluoranthene	ug/L	ND	50	45.8	92	23-103	
Benzo(g,h,i)perylene	ug/L	ND	50	38.7	77	18-111	
Benzo(k)fluoranthene	ug/L	ND	50	53.2	106	22-113	
Benzyl alcohol	ug/L	ND	100	64.2	64	19-101	
bis(2-Chloroethoxy)methane	ug/L	ND	50	24.7	49	22-110	
bis(2-Chloroethyl) ether	ug/L	ND	50	29.8	60	16-110	
bis(2-Chloroisopropyl) ether	ug/L	ND	50	23.6	47	14-110	
bis(2-Ethylhexyl)phthalate	ug/L	ND	50	58.8	118	23-102	M1
Butylbenzylphthalate	ug/L	ND	50	60.3	121	25-110	M1
Chlorobenzilate	ug/L	ND	50	54.9	110	50-150	
Chrysene	ug/L	ND	50	44.3	89	23-115	
Di-n-butylphthalate	ug/L	ND	50	59.4	119	26-110	M1
Di-n-octylphthalate	ug/L	ND	50	42.4	85	22-110	
Diallate	ug/L	ND	50	39.1	78	50-150	
Dibenz(a,h)anthracene	ug/L	ND	50	45.7	91	21-112	
Dibenzofuran	ug/L	ND	50	37.9	76	19-102	
Diethylphthalate	ug/L	ND	50	34.5J	69	29-110	
Dimethoate	ug/L	ND	50	40.4	81	50-150	
Dimethylphthalate	ug/L	ND	50	41.6	83	27-110	
Diphenylamine	ug/L	ND	50	48.3	97	50-150	
Disulfoton	ug/L	ND	50	43.1	86	50-150	
Ethyl methanesulfonate	ug/L	ND	50	28.8	58	50-150	
Famphur	ug/L	ND	100	35.6	36	50-150	M1
Fluoranthene	ug/L	ND	50	63.2	126	23-112	M0
Fluorene	ug/L	ND	50	33.3	67	22-104	
Hexachlorobenzene	ug/L	ND	50	46.9	94	21-116	
Hexachlorocyclopentadiene	ug/L	ND	50	16.5	33	10-110	
Hexachloroethane	ug/L	ND	50	33.8	68	10-110	
Hexachloropropene	ug/L	ND	50	32.0	64	50-150	
Indeno(1,2,3-cd)pyrene	ug/L	ND	50	47.0	94	20-113	
Isodrin	ug/L	ND	50	66.0	132	50-150	
Isophorone	ug/L	ND	50	24.6	49	50-150	M1
Isosafrole	ug/L	ND	50	33.9	68	50-150	
Kepone	ug/L	ND	100	44.0	44	50-150	M1
Methapyrilene	ug/L	ND	50	42.3J	85	50-150	
Methyl methanesulfonate	ug/L	ND	50	27.4	55	50-150	
Methyl parathion	ug/L	ND	50	47.6	95	50-150	
N-Nitroso-di-n-butylamine	ug/L	ND	50	24.0	48	50-150	M1
N-Nitroso-di-n-propylamine	ug/L	ND	50	38.9	78	21-105	
N-Nitrosodiethylamine	ug/L	ND	50	30.5	61	50-150	
N-Nitrosodimethylamine	ug/L	ND	50	19.5	39	10-110	
N-Nitrosodiphenylamine	ug/L	ND	50	48.3	97	23-107	
N-Nitrosomethylethylamine	ug/L	ND	50	31.8	64	50-150	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

MATRIX SPIKE SAMPLE: 1629827

Parameter	Units	92278963015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
N-Nitrosopiperidine	ug/L	ND	50	32.1	64	50-150	
N-Nitrosopyrrolidine	ug/L	ND	50	46.7	93	50-150	
Nitrobenzene	ug/L	ND	50	22.6	45	20-110	
O,O,O-Triethylphosphorothioate	ug/L	ND	50	33.1	66	50-150	
O-Toluidine	ug/L	ND	50	41.4	83	50-150	
P-Dimethylaminoazobenzene	ug/L	ND	100	25.8	26	50-150	M1
p-Phenylenediamine	ug/L	ND	50	38.5	77	50-150	
Parathion (Ethyl parathion)	ug/L	ND	50	63.6	127	50-150	
Pentachlorobenzene	ug/L	ND	50	37.7	75	50-150	
Pentachloronitrobenzene	ug/L	ND	50	50.8	102	50-150	
Pentachlorophenol	ug/L	ND	250	80.7	32	10-118	
Phenacetin	ug/L	ND	50	47.4	95	50-150	
Phenanthrene	ug/L	ND	50	43.1	86	24-106	
Phenol	ug/L	ND	50	13.0	26	12-110	
Phorate	ug/L	ND	50	56.5	113	50-150	
Pronamide	ug/L	ND	50	55.7	111	50-150	
Pyrene	ug/L	ND	50	53.0	106	24-114	
Safrole	ug/L	ND	50	33.1	66	50-150	
Thionazin	ug/L	ND	50	34.3	69	50-150	
2,4,6-Tribromophenol (S)	%				99	27-110	
2-Fluorobiphenyl (S)	%				57	27-110	
2-Fluorophenol (S)	%				26	12-110	
Nitrobenzene-d5 (S)	%				49	21-110	
Phenol-d6 (S)	%				21	10-110	
Terphenyl-d14 (S)	%				90	31-107	

SAMPLE DUPLICATE: 1629828

Parameter	Units	92278963016 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	ND	ND		30	
1,3,5-Trinitrobenzene	ug/L	ND	ND		30	
1,3-Dinitrobenzene	ug/L	ND	ND		30	
1,4-Naphthoquinone	ug/L	ND	ND		30	
1-Naphthalenamine	ug/L	ND	ND		30	
2,3,4,6-Tetrachlorophenol	ug/L	ND	ND		30	
2,4,5-Trichlorophenol	ug/L	ND	ND		30	
2,4,6-Trichlorophenol	ug/L	ND	ND		30	
2,4-Dichlorophenol	ug/L	ND	ND		30	
2,4-Dimethylphenol	ug/L	ND	ND		30	
2,4-Dinitrophenol	ug/L	ND	ND		30	
2,4-Dinitrotoluene	ug/L	ND	ND		30	
2,6-Dichlorophenol	ug/L	ND	ND		30	
2,6-Dinitrotoluene	ug/L	ND	ND		30	
2-Acetylaminofluorene	ug/L	ND	ND		30	
2-Chloronaphthalene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

SAMPLE DUPLICATE: 1629828

Parameter	Units	92278963016 Result	Dup Result	RPD	Max RPD	Qualifiers
2-Chlorophenol	ug/L	ND	ND		30	
2-Methylnaphthalene	ug/L	ND	ND		30	
2-Methylphenol(o-Cresol)	ug/L	ND	ND		30	
2-Naphthalenamine	ug/L	ND	ND		30	
2-Nitroaniline	ug/L	ND	ND		30	
2-Nitrophenol	ug/L	ND	ND		30	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	ND		30	
3,3'-Dichlorobenzidine	ug/L	ND	ND		30	
3,3'-Dimethylbenzidine	ug/L	ND	ND		30	
3-Methylcholanthrene	ug/L	ND	ND		30	
3-Nitroaniline	ug/L	ND	ND		30	
4,6-Dinitro-2-methylphenol	ug/L	ND	ND		30	
4-Aminobiphenyl	ug/L	ND	ND		30	
4-Bromophenylphenyl ether	ug/L	ND	ND		30	
4-Chloro-3-methylphenol	ug/L	ND	ND		30	
4-Chloroaniline	ug/L	ND	ND		30	
4-Chlorophenylphenyl ether	ug/L	ND	ND		30	
4-Nitroaniline	ug/L	ND	ND		30	
4-Nitrophenol	ug/L	ND	ND		30	
5-Nitro-o-toluidine	ug/L	ND	ND			
7,12-Dimethylbenz(a)anthracene	ug/L	ND	ND		30	
Acenaphthene	ug/L	ND	ND		30	
Acenaphthylene	ug/L	ND	ND		30	
Acetophenone	ug/L	ND	ND		30	
Anthracene	ug/L	ND	ND		30	
Benzo(a)anthracene	ug/L	ND	ND		30	
Benzo(a)pyrene	ug/L	ND	ND		30	
Benzo(b)fluoranthene	ug/L	ND	ND		30	
Benzo(g,h,i)perylene	ug/L	ND	ND		30	
Benzo(k)fluoranthene	ug/L	ND	ND		30	
Benzyl alcohol	ug/L	ND	ND		30	
bis(2-Chloroethoxy)methane	ug/L	ND	ND		30	
bis(2-Chloroethyl) ether	ug/L	ND	ND		30	
bis(2-Chloroisopropyl) ether	ug/L	ND	ND		30	
bis(2-Ethylhexyl)phthalate	ug/L	ND	ND		30	
Butylbenzylphthalate	ug/L	ND	ND		30	
Chlorobenzilate	ug/L	ND	ND		30	
Chrysene	ug/L	ND	ND		30	
Di-n-butylphthalate	ug/L	ND	ND		30	
Di-n-octylphthalate	ug/L	ND	ND		30	
Diallate	ug/L	ND	ND		30	
Dibenz(a,h)anthracene	ug/L	ND	ND		30	
Dibenzofuran	ug/L	ND	ND		30	
Diethylphthalate	ug/L	ND	ND		30	
Dimethoate	ug/L	ND	ND		30	
Dimethylphthalate	ug/L	ND	ND		30	
Diphenylamine	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

SAMPLE DUPLICATE: 1629828

Parameter	Units	92278963016 Result	Dup Result	RPD	Max RPD	Qualifiers
Disulfoton	ug/L	ND	ND		30	
Ethyl methanesulfonate	ug/L	ND	ND		30	
Famphur	ug/L	ND	ND		30	
Fluoranthene	ug/L	ND	ND		30	
Fluorene	ug/L	ND	ND		30	
Hexachlorobenzene	ug/L	ND	ND		30	
Hexachlorocyclopentadiene	ug/L	ND	ND		30	
Hexachloroethane	ug/L	ND	ND		30	
Hexachloropropene	ug/L	ND	ND		30	
Indeno(1,2,3-cd)pyrene	ug/L	ND	ND		30	
Isodrin	ug/L	ND	ND		30	
Isophorone	ug/L	ND	ND		30	
Isosafrole	ug/L	ND	ND		30	
Kepone	ug/L	ND	ND		30	
Methapyrilene	ug/L	ND	ND		30	
Methyl methanesulfonate	ug/L	ND	ND		30	
Methyl parathion	ug/L	ND	ND		30	
N-Nitroso-di-n-butylamine	ug/L	ND	ND		30	
N-Nitroso-di-n-propylamine	ug/L	ND	ND		30	
N-Nitrosodiethylamine	ug/L	ND	ND		30	
N-Nitrosodimethylamine	ug/L	ND	ND		30	
N-Nitrosodiphenylamine	ug/L	ND	ND		30	
N-Nitrosomethylethylamine	ug/L	ND	ND		30	
N-Nitrosopiperidine	ug/L	ND	ND		30	
N-Nitrosopyrrolidine	ug/L	ND	ND		30	
Nitrobenzene	ug/L	ND	ND		30	
O,O,O-Triethylphosphorothioate	ug/L	ND	ND		30	
O-Toluidine	ug/L	ND	ND		30	
P-Dimethylaminoazobenzene	ug/L	ND	ND		30	
p-Phenylenediamine	ug/L	ND	ND		30	
Parathion (Ethyl parathion)	ug/L	ND	ND		30	
Pentachlorobenzene	ug/L	ND	ND		30	
Pentachloronitrobenzene	ug/L	ND	ND		30	
Pentachlorophenol	ug/L	ND	ND		30	
Phenacetin	ug/L	ND	ND		30	
Phenanthrene	ug/L	ND	ND		30	
Phenol	ug/L	ND	ND		30	
Phorate	ug/L	ND	ND		30	
Pronamide	ug/L	ND	ND		30	
Pyrene	ug/L	ND	ND		30	
Safrole	ug/L	ND	ND		30	
Thionazin	ug/L	ND	ND		30	
2,4,6-Tribromophenol (S)	%	70	64	10		
2-Fluorobiphenyl (S)	%	71	65	9		
2-Fluorophenol (S)	%	35	31	12		
Nitrobenzene-d5 (S)	%	77	68	12		
Phenol-d6 (S)	%	22	18	17		

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

SAMPLE DUPLICATE: 1629828

Parameter	Units	92278963016 Result	Dup Result	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%	78	83	7		

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: WET/41955 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Associated Lab Samples: 92279347001

METHOD BLANK: 1628049 | Matrix: Water
Associated Lab Samples: 92279347001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	ug/L	ND	5000	1000	12/14/15 13:29	

LABORATORY CONTROL SAMPLE: 1628050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	ug/L	50000	48500	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628051 1628052

Parameter	Units	92278963003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	ug/L	150 mg/L	50000	50000	200000	156000	99	12	80-120	25	25	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628053 1628054

Parameter	Units	92278963011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	ug/L	596 mg/L	50000	50000	633000	662000	74	131	80-120	4	25	M1

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: WET/41916 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 92279347001

METHOD BLANK: 1626642 | Matrix: Water
Associated Lab Samples: 92279347001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	ug/L	ND	25000	25000	12/11/15 10:39	

LABORATORY CONTROL SAMPLE: 1626643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	ug/L	250000	246000	98	90-110	

SAMPLE DUPLICATE: 1626644

Parameter	Units	92279178001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	330 mg/L	316000	4	5	

SAMPLE DUPLICATE: 1626645

Parameter	Units	92278979001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	299 mg/L	320000	7	5	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: WET/41914
QC Batch Method: SM 4500-S2D
Analysis Method: SM 4500-S2D
Analysis Description: 4500S2D Sulfide Water
Associated Lab Samples: 92279347001

METHOD BLANK: 1626491
Matrix: Water
Associated Lab Samples: 92279347001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	ug/L	ND	1000	100	12/11/15 15:00	

LABORATORY CONTROL SAMPLE: 1626492

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	ug/L	500	504J	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1626493 1626494

Parameter	Units	92279262001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	ug/L	ND	500	500	457J	457J	91	91	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1626495 1626496

Parameter	Units	92279262011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	ug/L	ND	500	500	470J	470J	94	94	90-110	0	10	

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: WET/41938 | Analysis Method: SM 4500-S2D
QC Batch Method: SM 4500-S2D | Analysis Description: 4500S2D Sulfide Water
Associated Lab Samples: 92279347002

METHOD BLANK: 1627829 | Matrix: Water
Associated Lab Samples: 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	ug/L	ND	1000	100	12/14/15 12:30	

LABORATORY CONTROL SAMPLE: 1627830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	ug/L	500	506J	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1627831 1627832

Parameter	Units	92279347002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	ug/L	ND	500	500	462J	462J	92	92	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1627833 1627834

Parameter	Units	92279409003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	ug/L	ND	500	500	444J	444J	89	89	90-110	0	10	M1

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: WETA/25748 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Associated Lab Samples: 92279347001

METHOD BLANK: 1626618 | Matrix: Water
Associated Lab Samples: 92279347001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	ug/L	ND	250000	1000	12/11/15 14:06	

LABORATORY CONTROL SAMPLE: 1626619

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	20000	21000J	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1626620 1626621

Parameter	Units	92278963003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	ug/L	10.1 mg/L	20000	20000	30600J	30800J	103	103	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1626622 1626623

Parameter	Units	92279395006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	ug/L	9260J	20000	20000	29800J	30100J	102	104	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: WETA/25851 | Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E | Analysis Description: 4500 Chloride
Associated Lab Samples: 92279347001

METHOD BLANK: 1633380 | Matrix: Water
Associated Lab Samples: 92279347001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	ug/L	ND	1000	500	12/18/15 17:52	

LABORATORY CONTROL SAMPLE: 1633381

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	ug/L	20000	19900	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1633382 1633383

Parameter	Units	92280333001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	ug/L	3.0 mg/L	20000	20000	23300	23200	101	101	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1633384 1633385

Parameter	Units	92279763005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	ug/L	63.2 mg/L	100000	100000	132000	131000	68	68	90-110	0	10	M1

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: WETA/25788
QC Batch Method: SM 4500-CN-E
Analysis Method: SM 4500-CN-E
Analysis Description: 4500CNE Cyanide, Total
Associated Lab Samples: 92279347001

METHOD BLANK: 1628959
Matrix: Water
Associated Lab Samples: 92279347001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cyanide	ug/L	ND	10.0	4.0	12/16/15 10:52	

LABORATORY CONTROL SAMPLE: 1628960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	100	90.6	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628961 1628962

Parameter	Units	92279059001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	ND	100	100	120	121	115	116	75-125	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628963 1628964

Parameter	Units	92278760008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	0.0096 mg/L	100	100	112	108	102	98	75-125	3	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.

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QUALITY CONTROL DATA

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

QC Batch: WETA/25789
QC Batch Method: SM 4500-CN-E
Analysis Method: SM 4500-CN-E
Analysis Description: 4500CNE Cyanide, Total
Associated Lab Samples: 92279347002

METHOD BLANK: 1628965
Matrix: Water
Associated Lab Samples: 92279347002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cyanide	ug/L	ND	10.0	4.0	12/16/15 11:20	

LABORATORY CONTROL SAMPLE: 1628966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	100	95.2	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628967 1628968

Parameter	Units	92279219001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	ND	100	100	112	116	109	113	75-125	4	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628969 1628970

Parameter	Units	92279489002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	ND	100	100	102	109	99	106	75-125	7	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.

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QUALIFIERS

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte
PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

C9	Common Laboratory Contaminant.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURKE CO. JOHN'S R-BG & BLANKS
Pace Project No.: 92279347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92279347001	**1203-MW21**	EPA 3510	OEXT/39722	EPA 8081	GCSV/23555
92279347002	**1203-FIELD BLANK**	EPA 3510	OEXT/39722	EPA 8081	GCSV/23555
92279347001	**1203-MW21**	EPA 3510	OEXT/39678	EPA 8082	GCSV/23523
92279347002	**1203-FIELD BLANK**	EPA 3510	OEXT/39678	EPA 8082	GCSV/23523
92279347001	**1203-MW21**	EPA 8151	OEXT/25723	EPA 8151	GCSV/16765
92279347002	**1203-FIELD BLANK**	EPA 8151	OEXT/25723	EPA 8151	GCSV/16765
92279347001	**1203-MW21**	EPA 3010A	MPRP/20260	EPA 6010	ICP/18284
92279347002	**1203-FIELD BLANK**	EPA 3010A	MPRP/20260	EPA 6010	ICP/18284
92279347001	**1203-MW21**	EPA 7470	MERP/8788	EPA 7470	MERC/8442
92279347002	**1203-FIELD BLANK**	EPA 7470	MERP/8788	EPA 7470	MERC/8442
92279347001	**1203-MW21**	EPA 3510	OEXT/39746	EPA 8270	MSSV/11670
92279347002	**1203-FIELD BLANK**	EPA 3510	OEXT/39746	EPA 8270	MSSV/11670
92279347001	**1203-MW21**	EPA 8260	MSV/34786		
92279347002	**1203-FIELD BLANK**	EPA 8260	MSV/34820		
92279347003	**1203-TRIP BLANK**	EPA 8260	MSV/34786		
92279347001	**1203-MW21**	SM 2320B	WET/41955		
92279347001	**1203-MW21**	SM 2540C	WET/41916		
92279347001	**1203-MW21**	SM 4500-S2D	WET/41914		
92279347002	**1203-FIELD BLANK**	SM 4500-S2D	WET/41938		
92279347001	**1203-MW21**	EPA 300.0	WETA/25748		
92279347001	**1203-MW21**	SM 4500-Cl-E	WETA/25851		
92279347001	**1203-MW21**	SM 4500-CN-E	WETA/25788		
92279347002	**1203-FIELD BLANK**	SM 4500-CN-E	WETA/25789		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: November 17, 2015 Page 1 of 2*
	Document Number: **F-CHR-CS-003-rev.16.1**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Joeye

* Page 2 of 2 is for Internal Use Only

Courier: ☐ Fed Ex ☐ UPS ☐ USP ☐ Client ☐ Commercial ☐ Pace Other_____

Optional
Proj. Due Date:
Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1505 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Temp Correction Factor No Correction

Corrected Cooler Temp.: 3.8 °C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: inlo

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

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	DR	Date:	12/10/15
SRF Review:	DR	Date:	12/10/15

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)

WO# : 92279347

92279347

Pace Analytical

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:	Joyce Engineering
Address:	2211 West Meadowview Rd
	Greensboro, NC 27407
Email To:	dgirdner@joyceengineering.com
Phone:	(336) 323-0092 Fax
Requested Due Date/TAT:	10 Day (Default)

Section B
Required Project Information:

Report To:	Van Burbach
Copy To:	Dan Girdner
Purchase Order No.	277.1601.12.02
Client Project ID:	Burke Co. John's R. -BG & BLANKS
Container Order Number:	

Section C
Invoice Information:

Attention:	Lecia Jones
Company Name:	Joyce Engineering
Address:	1604 Ownby Lane, Richmond, VA 23
Pace Quote Reference:	
Pace Project Manager:	Godwin, Kevin
Pace Profile #:	

Regulatory Agency
State / Location
North Carolina

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 (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N): NC Appendix II Metals	NC C&D Metals Fe, Mn, Hg	NC App. II VOC's +THF	NC App II 8270	NC Appll 8081	NC Appll 8082	NC Appll 8151	Sulfide	Cyanide	Alkalinity, Chloride, TDS	Sulfate	Residual Chlorine (Y/N)	92279347
1	1203-MW21 17	WT	G			12-8-15	11:20		17	X		X	X	X			X	X	X	X	X	X	X	X	X	X	X	X		001
2	1203-Trip Blank	WT	G										X							X										003
3	1203-Field Blank 17	WT	G			12-9-15	15:30		17	X		X	X	X			X	X	X	X	X	X	X	X	X					002
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
NC Appendix II and Additional C&DLF List Event	[signature] Joyce	12-10-15	1045	[signature]	12-10-15	1045				
Please provide sufficient Lab D.I. water for field blanks	[signature]	12-10-15	1420	[signature]	12-10-15	1420	38	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Gretha Eller Hailey Seaton

SIGNATURE of SAMPLER: [signature] Haley Seaton

DATE Signed: 12-10-15

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

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December 29, 2015

Mr. Van Burbach
Joyce Engineering-Greensboro
2211 West Meadowview Rd
Boone Bldg, Suite 101
Greensboro, NC 27407

RE: Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Dear Mr. Burbach:
Enclosed are the analytical results for sample(s) received by the laboratory on December 10, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

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

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Alex Everhart, Joyce Engineering-NC

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CERTIFICATIONS

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92279394001	**1203-MW15S**	Water	12/09/15 13:11	12/10/15 10:48
92279394002	**1203-PZ12**	Water	12/09/15 10:50	12/10/15 10:48
92279394003	**1203-PZ30S**	Water	12/08/15 15:15	12/10/15 10:48
92279394004	**1203-PZ31**	Water	12/08/15 15:23	12/10/15 10:48
92279394005	**1203-PZ35**	Water	12/09/15 14:45	12/10/15 10:48
92279394006	**1203-PZ36**	Water	12/09/15 14:15	12/10/15 10:48
92279394007	**1203-MW38**	Water	12/09/15 14:30	12/10/15 10:48

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SAMPLE ANALYTE COUNT

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92279394001	**1203-MW15S**	RSK 175	DR1	1	PASI-M
		EPA 8260	GAW	11	PASI-C
92279394002	**1203-PZ12**	RSK 175	DR1	1	PASI-M
		EPA 8260	GAW	11	PASI-C
92279394003	**1203-PZ30S**	RSK 175	DR1	1	PASI-M
		EPA 8260	GAW	11	PASI-C
92279394004	**1203-PZ31**	RSK 175	DR1	1	PASI-M
		EPA 8260	GAW	11	PASI-C
92279394005	**1203-PZ35**	RSK 175	DR1	1	PASI-M
		EPA 8260	GAW	11	PASI-C
92279394006	**1203-PZ36**	RSK 175	DR1	1	PASI-M
		EPA 8260	GAW	11	PASI-C
92279394007	**1203-MW38**	RSK 175	DR1	1	PASI-M

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SUMMARY OF DETECTION

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92279394001	**1203-MW15S**					
RSK 175	Methane	8550	ug/L	10.0	12/16/15 12:09	
EPA 8260	Benzene	1.2	ug/L	1.0	12/20/15 21:38	
EPA 8260	1,4-Dichlorobenzene	1.0	ug/L	1.0	12/20/15 21:38	
EPA 8260	1,1-Dichloroethane	2.2J	ug/L	5.0	12/20/15 21:38	
EPA 8260	Methylene Chloride	2.6	ug/L	1.0	12/20/15 21:38	C9
EPA 8260	Tetrachloroethene	2.1	ug/L	1.0	12/20/15 21:38	
EPA 8260	Trichloroethene	1.1	ug/L	1.0	12/20/15 21:38	
92279394002	**1203-PZ12**					
RSK 175	Methane	3.0J	ug/L	10.0	12/16/15 12:17	
92279394003	**1203-PZ30S**					
RSK 175	Methane	2.5J	ug/L	10.0	12/15/15 16:48	
92279394004	**1203-PZ31**					
RSK 175	Methane	4.8J	ug/L	10.0	12/15/15 17:04	
92279394005	**1203-PZ35**					
RSK 175	Methane	2.7J	ug/L	10.0	12/16/15 12:25	
92279394006	**1203-PZ36**					
RSK 175	Methane	3780	ug/L	10.0	12/16/15 11:19	
EPA 8260	Benzene	5.8	ug/L	1.0	12/20/15 22:29	
EPA 8260	1,4-Dichlorobenzene	19.6	ug/L	1.0	12/20/15 22:29	
EPA 8260	1,1-Dichloroethane	5.9	ug/L	5.0	12/20/15 22:29	
EPA 8260	1,2-Dichloroethane	0.66J	ug/L	1.0	12/20/15 22:29	
EPA 8260	Methylene Chloride	11.2	ug/L	1.0	12/20/15 22:29	
EPA 8260	Tetrachloroethene	5.0	ug/L	1.0	12/20/15 22:29	
EPA 8260	Trichloroethene	2.9	ug/L	1.0	12/20/15 22:29	
EPA 8260	Vinyl chloride	0.80J	ug/L	1.0	12/20/15 22:29	
92279394007	**1203-MW38**					
RSK 175	Methane	3120	ug/L	10.0	12/16/15 14:50	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Sample: 1203-MW15S **Lab ID: 92279394001** Collected: 12/09/15 13:11 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace	Analytical Method: RSK 175								
Methane	**8550**	ug/L	10.0	0.63	1		12/16/15 12:09	74-82-8	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Benzene	**1.2**	ug/L	1.0	0.25	1		12/20/15 21:38	71-43-2	
1,4-Dichlorobenzene	**1.0**	ug/L	1.0	0.33	1		12/20/15 21:38	106-46-7	
1,1-Dichloroethane	**2.2J**	ug/L	5.0	0.32	1		12/20/15 21:38	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/20/15 21:38	107-06-2	
Methylene Chloride	**2.6**	ug/L	1.0	0.97	1		12/20/15 21:38	75-09-2	C9
Tetrachloroethene	**2.1**	ug/L	1.0	0.46	1		12/20/15 21:38	127-18-4	
Trichloroethene	**1.1**	ug/L	1.0	0.47	1		12/20/15 21:38	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/20/15 21:38	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		12/20/15 21:38	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		12/20/15 21:38	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		12/20/15 21:38	2037-26-5	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Sample: 1203-PZ12 **Lab ID: 92279394002** Collected: 12/09/15 10:50 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace	Analytical Method: RSK 175								
Methane	**3.0J**	ug/L	10.0	0.63	1		12/16/15 12:17	74-82-8	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		12/20/15 21:55	71-43-2	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/20/15 21:55	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/20/15 21:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/20/15 21:55	107-06-2	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/20/15 21:55	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/20/15 21:55	127-18-4	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/20/15 21:55	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/20/15 21:55	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		12/20/15 21:55	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		12/20/15 21:55	17060-07-0	
Toluene-d8 (S)	109	%	70-130		1		12/20/15 21:55	2037-26-5	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Sample: 1203-PZ30S **Lab ID: 92279394003** Collected: 12/08/15 15:15 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace	Analytical Method: RSK 175								
Methane	**2.5J**	ug/L	10.0	0.63	1		12/15/15 16:48	74-82-8	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		12/19/15 10:18	71-43-2	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/19/15 10:18	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/19/15 10:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/19/15 10:18	107-06-2	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/19/15 10:18	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/19/15 10:18	127-18-4	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/19/15 10:18	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/19/15 10:18	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		12/19/15 10:18	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		12/19/15 10:18	17060-07-0	
Toluene-d8 (S)	112	%	70-130		1		12/19/15 10:18	2037-26-5	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Sample: 1203-PZ31 **Lab ID: 92279394004** Collected: 12/08/15 15:23 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace	Analytical Method: RSK 175								
Methane	**4.8J**	ug/L	10.0	0.63	1		12/15/15 17:04	74-82-8	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		12/19/15 10:35	71-43-2	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/19/15 10:35	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/19/15 10:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/19/15 10:35	107-06-2	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/19/15 10:35	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/19/15 10:35	127-18-4	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/19/15 10:35	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/19/15 10:35	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		12/19/15 10:35	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		12/19/15 10:35	17060-07-0	
Toluene-d8 (S)	109	%	70-130		1		12/19/15 10:35	2037-26-5	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Sample: 1203-PZ35 **Lab ID: 92279394005** Collected: 12/09/15 14:45 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace	Analytical Method: RSK 175								
Methane	**2.7J**	ug/L	10.0	0.63	1		12/16/15 12:25	74-82-8	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		12/20/15 22:13	71-43-2	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/20/15 22:13	106-46-7	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/20/15 22:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/20/15 22:13	107-06-2	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/20/15 22:13	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/20/15 22:13	127-18-4	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/20/15 22:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/20/15 22:13	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		12/20/15 22:13	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		12/20/15 22:13	17060-07-0	
Toluene-d8 (S)	111	%	70-130		1		12/20/15 22:13	2037-26-5	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Sample: 1203-PZ36 **Lab ID: 92279394006** Collected: 12/09/15 14:15 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace	Analytical Method: RSK 175								
Methane	**3780**	ug/L	10.0	0.63	1		12/16/15 11:19	74-82-8	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Benzene	**5.8**	ug/L	1.0	0.25	1		12/20/15 22:29	71-43-2	
1,4-Dichlorobenzene	**19.6**	ug/L	1.0	0.33	1		12/20/15 22:29	106-46-7	
1,1-Dichloroethane	**5.9**	ug/L	5.0	0.32	1		12/20/15 22:29	75-34-3	
1,2-Dichloroethane	**0.66J**	ug/L	1.0	0.24	1		12/20/15 22:29	107-06-2	
Methylene Chloride	**11.2**	ug/L	1.0	0.97	1		12/20/15 22:29	75-09-2	
Tetrachloroethene	**5.0**	ug/L	1.0	0.46	1		12/20/15 22:29	127-18-4	
Trichloroethene	**2.9**	ug/L	1.0	0.47	1		12/20/15 22:29	79-01-6	
Vinyl chloride	**0.80J**	ug/L	1.0	0.62	1		12/20/15 22:29	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		12/20/15 22:29	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		12/20/15 22:29	17060-07-0	
Toluene-d8 (S)	112	%	70-130		1		12/20/15 22:29	2037-26-5	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Sample: 1203-MW38 **Lab ID: 92279394007** Collected: 12/09/15 14:30 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace	Analytical Method: RSK 175								
Methane	**3120**	ug/L	10.0	0.63	1		12/16/15 14:50	74-82-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

QC Batch: AIR/24853 | Analysis Method: RSK 175
QC Batch Method: RSK 175 | Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 92279394003, 92279394004

METHOD BLANK: 2158782 | Matrix: Water
Associated Lab Samples: 92279394003, 92279394004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Methane	ug/L	1.5J	10.0	0.63	12/15/15 14:31	

LABORATORY CONTROL SAMPLE & LCSD: 2158783 2158784

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	57.2	58.8	94	97	85-115	3	20	

SAMPLE DUPLICATE: 2158831

Parameter	Units	92278963007 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	9.1J	ND		20	

SAMPLE DUPLICATE: 2158832

Parameter	Units	92279394003 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	2.5J	3.0J		20	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

QC Batch: AIR/24864 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 92279394001, 92279394002, 92279394005, 92279394006

METHOD BLANK: 2159892 Matrix: Water
Associated Lab Samples: 92279394001, 92279394002, 92279394005, 92279394006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Methane	ug/L	1.4J	10.0	0.63	12/16/15 09:17	

LABORATORY CONTROL SAMPLE & LCSD: 2159893 2159894

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	55.8	55.8	92	92	85-115	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

QC Batch: AIR/24865 | Analysis Method: RSK 175
QC Batch Method: RSK 175 | Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 92279394007

METHOD BLANK: 2159899 | Matrix: Water
Associated Lab Samples: 92279394007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Methane	ug/L	1.4J	10.0	0.63	12/16/15 13:28	

LABORATORY CONTROL SAMPLE & LCSD: 2159900 2159901

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	55.8	54.9	92	91	85-115	2	20	

SAMPLE DUPLICATE: 2160006

Parameter	Units	92279322001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	71.7	89.0	22	20	R1

SAMPLE DUPLICATE: 2160007

Parameter	Units	10333128005 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	30.7	27.2	12	20	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

QC Batch: MSV/34786 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92279394003, 92279394004

METHOD BLANK: 1633238 | Matrix: Water
Associated Lab Samples: 92279394003, 92279394004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1-Dichloroethane	ug/L	ND	5.0	0.32	12/19/15 01:26	
1,2-Dichloroethane	ug/L	ND	1.0	0.24	12/19/15 01:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	0.33	12/19/15 01:26	
Benzene	ug/L	ND	1.0	0.25	12/19/15 01:26	
Methylene Chloride	ug/L	ND	1.0	0.97	12/19/15 01:26	
Tetrachloroethene	ug/L	1.2	1.0	0.46	12/19/15 01:26	
Trichloroethene	ug/L	ND	1.0	0.47	12/19/15 01:26	
Vinyl chloride	ug/L	ND	1.0	0.62	12/19/15 01:26	
1,2-Dichloroethane-d4 (S)	%	94	70-130		12/19/15 01:26	
4-Bromofluorobenzene (S)	%	101	70-130		12/19/15 01:26	
Toluene-d8 (S)	%	105	70-130		12/19/15 01:26	

LABORATORY CONTROL SAMPLE: 1633239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethane	ug/L	50	47.4	95	73-126	
1,2-Dichloroethane	ug/L	50	45.3	91	67-128	
1,4-Dichlorobenzene	ug/L	50	48.4	97	78-130	
Benzene	ug/L	50	50.1	100	80-125	
Methylene Chloride	ug/L	50	55.3	111	64-133	
Tetrachloroethene	ug/L	50	48.8	98	78-122	
Trichloroethene	ug/L	50	50.6	101	78-122	
Vinyl chloride	ug/L	50	49.4	99	58-137	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			97	70-130	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

QC Batch: MSV/34820 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92279394001, 92279394002, 92279394005, 92279394006

METHOD BLANK: 1634031 Matrix: Water
Associated Lab Samples: 92279394001, 92279394002, 92279394005, 92279394006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1-Dichloroethane	ug/L	ND	5.0	0.32	12/20/15 18:49	
1,2-Dichloroethane	ug/L	ND	1.0	0.24	12/20/15 18:49	
1,4-Dichlorobenzene	ug/L	ND	1.0	0.33	12/20/15 18:49	
Benzene	ug/L	ND	1.0	0.25	12/20/15 18:49	
Methylene Chloride	ug/L	ND	1.0	0.97	12/20/15 18:49	
Tetrachloroethene	ug/L	ND	1.0	0.46	12/20/15 18:49	
Trichloroethene	ug/L	ND	1.0	0.47	12/20/15 18:49	
Vinyl chloride	ug/L	ND	1.0	0.62	12/20/15 18:49	
1,2-Dichloroethane-d4 (S)	%	92	70-130		12/20/15 18:49	
4-Bromofluorobenzene (S)	%	102	70-130		12/20/15 18:49	
Toluene-d8 (S)	%	111	70-130		12/20/15 18:49	

LABORATORY CONTROL SAMPLE: 1634032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethane	ug/L	50	47.9	96	73-126	
1,2-Dichloroethane	ug/L	50	45.2	90	67-128	
1,4-Dichlorobenzene	ug/L	50	49.6	99	78-130	
Benzene	ug/L	50	53.5	107	80-125	
Methylene Chloride	ug/L	50	58.3	117	64-133	
Tetrachloroethene	ug/L	50	48.9	98	78-122	
Trichloroethene	ug/L	50	52.9	106	78-122	
Vinyl chloride	ug/L	50	50.0	100	58-137	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALIFIERS

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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

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TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte
PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

C9	Common Laboratory Contaminant.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURKE-JOHN'S R.-ADD. WELLS LFG
Pace Project No.: 92279394

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92279394001	**1203-MW15S**	RSK 175	AIR/24864		
92279394002	**1203-PZ12**	RSK 175	AIR/24864		
92279394003	**1203-PZ30S**	RSK 175	AIR/24853		
92279394004	**1203-PZ31**	RSK 175	AIR/24853		
92279394005	**1203-PZ35**	RSK 175	AIR/24864		
92279394006	**1203-PZ36**	RSK 175	AIR/24864		
92279394007	**1203-MW38**	RSK 175	AIR/24865		
92279394001	**1203-MW15S**	EPA 8260	MSV/34820		
92279394002	**1203-PZ12**	EPA 8260	MSV/34820		
92279394003	**1203-PZ30S**	EPA 8260	MSV/34786		
92279394004	**1203-PZ31**	EPA 8260	MSV/34786		
92279394005	**1203-PZ35**	EPA 8260	MSV/34820		
92279394006	**1203-PZ36**	EPA 8260	MSV/34820		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: November 17, 2015 Page 1 of 2*
	Document Number: **F-CHR-CS-003-rev.16.1**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Joyce Engineering

* Page 2 of 2 is for Internal Use Only

Courier: ☐ Fed Ex ☐ UPS ☐ USP ☐ Client ☐ Commercial ☐ (Pace) Other_____

Optional
Proj. Due Date:
Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☐ (Bubble Bags) ☐ None ☐ Other_____

Thermometer Used: IR Gun T1505 **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor No Correction

Corrected Cooler Temp.: 3.1 °C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Date and Initials of person examining contents: TH 12/10/15

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

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	DR	Date:	12/10/15
SRF Review:	[illegible]	Date:	12/10/15

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)

WO# : 92279394

92279394

Pace Analytical

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:	Joyce Engineering
Address:	2211 West Meadowview Rd Greensboro, NC 27407
Email To:	dgirdner@joyceengineering.com
Phone:	(336) 323-0092 Fax
Requested Due Date/TAT:	10 Day (Default)

Section B
Required Project Information:

Report To:	Van Burbach
Copy To:	Dan Girdner
Purchase Order No.	
Client Project ID:	Burke-John's R.- Add. Wells LFG
Container Order Number:	

Section C
Invoice Information:

Attention:	Lecia Jones
Company Name:	Joyce Engineering
Address:	1604 Ownby Lane, Richmond, VA 23220
Pace Quote Reference:	
Pace Project Manager:	Godwin, Kevin
Pace Profile #:	

Regulatory Agency	
State / Location	North Carolina

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N) VOC 8260 COC's*	Dissolved Methane	Residual Chlorine (Y/N)	92279394
1	1203-MW-15S 6	WT	G			12-9-15	13:11		6	X			X					X	X		001
2	1203-PZ-12 6	WT	G			12-9-15	10:50		6	X			X					X	X		002
3	1203-PZ-30S 6	WT	G			12-8-15	15:15		6	X			X					X	X		003
4	1203-PZ-31 6	WT	G			12-8-15	15:23		6	X			X					X	X		004
5	1203-PZ-35 6	WT	G			12-9-15	14:45		6	X			X					X	X		005
6	1203-PZ-36 6	WT	G			12-9-15	14:15		6	X			X					X	X		006
7	1203-MW38 3	WT	G			12-9-15	1430		3	X									X		007
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*COC's= Benzene, 1,4-Dichlorobenzene, Methylene Chloride, PCE, TCE, 1,1-DCA, 1,2-DCA, and Vinyl Chloride.	[illegible] / JOYCE	12-10-15	1045	[illegible]	12-10-15	1045				
	[illegible] / PACE	12-10-15	1420	[illegible] PACE HUL	12/10/15	1420	3.1	Y	N	Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Gretha Eller	Hailey Seaton	
SIGNATURE of SAMPLER:	[illegible]	[illegible]	DATE Signed: 12-10-15

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

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

December 22, 2015

Mr. Van Burbach
Joyce Engineering-Greensboro
2211 West Meadowview Rd
Boone Bldg, Suite 101
Greensboro, NC 27407

RE: Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Dear Mr. Burbach:
Enclosed are the analytical results for sample(s) received by the laboratory on December 10, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

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cc: Alex Everhart, Joyce Engineering-NC

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CERTIFICATIONS

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92279300001	**1203-SMP5**	Water	12/09/15 11:43	12/10/15 10:48
92279300002	**1203-SMP6**	Water	12/09/15 09:50	12/10/15 10:48
92279300003	**1203-SMP7**	Water	12/09/15 10:34	12/10/15 10:48
92279300004	**1203-MW11**	Water	12/08/15 12:05	12/10/15 10:48
92279300005	**1203-MW12**	Water	12/08/15 12:51	12/10/15 10:48
92279300006	**1203-MW16S**	Water	12/08/15 13:30	12/10/15 10:48
92279300007	**1203-MW21**	Water	12/08/15 11:20	12/10/15 10:48

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SAMPLE ANALYTE COUNT

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92279300001	**1203-SMP5**	EPA 8081	SWB	3	PASI-C
		EPA 6010	CDF	16	PASI-A
		EPA 7470	HVK	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 4500-CN-E	AES2	1	PASI-A
92279300002	**1203-SMP6**	EPA 8081	SWB	3	PASI-C
		EPA 6010	CDF	16	PASI-A
		EPA 7470	HVK	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 4500-CN-E	AES2	1	PASI-A
92279300003	**1203-SMP7**	EPA 8081	SWB	3	PASI-C
		EPA 6010	CDF	16	PASI-A
		EPA 7470	HVK	1	PASI-A
		EPA 8260	GAW	51	PASI-C
		SM 4500-CN-E	AES2	1	PASI-A

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SUMMARY OF DETECTION

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92279300001	**1203-SMP5**					
EPA 6010	Barium	26.1J	ug/L	100	12/17/15 01:08	
92279300002	**1203-SMP6**					
EPA 6010	Barium	23.4J	ug/L	100	12/17/15 01:11	
92279300003	**1203-SMP7**					
EPA 6010	Barium	27.8J	ug/L	100	12/17/15 01:24	
EPA 6010	Vanadium	3.9J	ug/L	25.0	12/17/15 01:24	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Sample: 1203-SMP5 **Lab ID: 92279300001** Collected: 12/09/15 11:43 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 Organochlorine Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3510								
alpha-BHC	ND	ug/L	0.050	0.050	1	12/14/15 15:00	12/16/15 21:05	319-84-6	
Surrogates									
Tetrachloro-m-xylene (S)	79	%	20-130		1	12/14/15 15:00	12/16/15 21:05	877-09-8	
Decachlorobiphenyl (S)	74	%	20-130		1	12/14/15 15:00	12/16/15 21:05	2051-24-3	
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010A								
Antimony	ND	ug/L	6.0	3.8	1	12/12/15 00:00	12/17/15 01:08	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:08	7440-38-2	
Barium	**26.1J**	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 01:08	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 01:08	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 01:08	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:08	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:08	7440-48-4	
Copper	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:08	7440-50-8	
Lead	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:08	7439-92-1	
Nickel	ND	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 01:08	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 01:08	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:08	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	12/12/15 00:00	12/17/15 01:08	7440-28-0	
Tin	ND	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 01:08	7440-31-5	
Vanadium	ND	ug/L	25.0	2.5	1	12/12/15 00:00	12/17/15 01:08	7440-62-2	
Zinc	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 01:08	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.10	1	12/17/15 14:05	12/17/15 18:20	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		12/19/15 18:12	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		12/19/15 18:12	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		12/19/15 18:12	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		12/19/15 18:12	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		12/19/15 18:12	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		12/19/15 18:12	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		12/19/15 18:12	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		12/19/15 18:12	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		12/19/15 18:12	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		12/19/15 18:12	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		12/19/15 18:12	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		12/19/15 18:12	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		12/19/15 18:12	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		12/19/15 18:12	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		12/19/15 18:12	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		12/19/15 18:12	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		12/19/15 18:12	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		12/19/15 18:12	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		12/19/15 18:12	95-50-1	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Sample: 1203-SMP5 **Lab ID: 92279300001** Collected: 12/09/15 11:43 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/19/15 18:12	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		12/19/15 18:12	110-57-6	
Dichlorodifluoromethane	ND	ug/L	5.0	0.21	1		12/19/15 18:12	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/19/15 18:12	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/19/15 18:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		12/19/15 18:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		12/19/15 18:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		12/19/15 18:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		12/19/15 18:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		12/19/15 18:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		12/19/15 18:12	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/19/15 18:12	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		12/19/15 18:12	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		12/19/15 18:12	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/19/15 18:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		12/19/15 18:12	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		12/19/15 18:12	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		12/19/15 18:12	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		12/19/15 18:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/19/15 18:12	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		12/19/15 18:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		12/19/15 18:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		12/19/15 18:12	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/19/15 18:12	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		12/19/15 18:12	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		12/19/15 18:12	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		12/19/15 18:12	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/19/15 18:12	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		12/19/15 18:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		12/19/15 18:12	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		12/19/15 18:12	17060-07-0	
Toluene-d8 (S)	115	%	70-130		1		12/19/15 18:12	2037-26-5	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E								
Cyanide	ND	mg/L	0.010	0.0040	1		12/16/15 11:25	57-12-5	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Sample: 1203-SMP6 **Lab ID: 92279300002** Collected: 12/09/15 09:50 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 Organochlorine Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3510								
alpha-BHC	ND	ug/L	0.050	0.050	1	12/14/15 15:00	12/16/15 21:23	319-84-6	
Surrogates									
Tetrachloro-m-xylene (S)	70	%	20-130		1	12/14/15 15:00	12/16/15 21:23	877-09-8	
Decachlorobiphenyl (S)	48	%	20-130		1	12/14/15 15:00	12/16/15 21:23	2051-24-3	
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010A								
Antimony	ND	ug/L	6.0	3.8	1	12/12/15 00:00	12/17/15 01:11	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:11	7440-38-2	
Barium	**23.4J**	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 01:11	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 01:11	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 01:11	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:11	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:11	7440-48-4	
Copper	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:11	7440-50-8	
Lead	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:11	7439-92-1	
Nickel	ND	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 01:11	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 01:11	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:11	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	12/12/15 00:00	12/17/15 01:11	7440-28-0	
Tin	ND	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 01:11	7440-31-5	
Vanadium	ND	ug/L	25.0	2.5	1	12/12/15 00:00	12/17/15 01:11	7440-62-2	
Zinc	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 01:11	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.10	1	12/17/15 14:05	12/17/15 18:22	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		12/19/15 18:29	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		12/19/15 18:29	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		12/19/15 18:29	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		12/19/15 18:29	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		12/19/15 18:29	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		12/19/15 18:29	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		12/19/15 18:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		12/19/15 18:29	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		12/19/15 18:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		12/19/15 18:29	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		12/19/15 18:29	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		12/19/15 18:29	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		12/19/15 18:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		12/19/15 18:29	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		12/19/15 18:29	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		12/19/15 18:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		12/19/15 18:29	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		12/19/15 18:29	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		12/19/15 18:29	95-50-1	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Sample: 1203-SMP6 **Lab ID: 92279300002** Collected: 12/09/15 09:50 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/19/15 18:29	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		12/19/15 18:29	110-57-6	
Dichlorodifluoromethane	ND	ug/L	5.0	0.21	1		12/19/15 18:29	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/19/15 18:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/19/15 18:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		12/19/15 18:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		12/19/15 18:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		12/19/15 18:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		12/19/15 18:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		12/19/15 18:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		12/19/15 18:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/19/15 18:29	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		12/19/15 18:29	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		12/19/15 18:29	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/19/15 18:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		12/19/15 18:29	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		12/19/15 18:29	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		12/19/15 18:29	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		12/19/15 18:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/19/15 18:29	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		12/19/15 18:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		12/19/15 18:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		12/19/15 18:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/19/15 18:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		12/19/15 18:29	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		12/19/15 18:29	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		12/19/15 18:29	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/19/15 18:29	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		12/19/15 18:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		12/19/15 18:29	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		12/19/15 18:29	17060-07-0	
Toluene-d8 (S)	111	%	70-130		1		12/19/15 18:29	2037-26-5	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E								
Cyanide	ND	mg/L	0.010	0.0040	1		12/16/15 11:26	57-12-5	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Sample: 1203-SMP7 **Lab ID: 92279300003** Collected: 12/09/15 10:34 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 Organochlorine Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3510								
alpha-BHC	ND	ug/L	0.050	0.050	1	12/14/15 15:00	12/16/15 21:41	319-84-6	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	20-130		1	12/14/15 15:00	12/16/15 21:41	877-09-8	
Decachlorobiphenyl (S)	40	%	20-130		1	12/14/15 15:00	12/16/15 21:41	2051-24-3	
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010A								
Antimony	ND	ug/L	6.0	3.8	1	12/12/15 00:00	12/17/15 01:24	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:24	7440-38-2	
Barium	**27.8J**	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 01:24	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 01:24	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	12/12/15 00:00	12/17/15 01:24	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:24	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:24	7440-48-4	
Copper	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:24	7440-50-8	
Lead	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:24	7439-92-1	
Nickel	ND	ug/L	50.0	2.5	1	12/12/15 00:00	12/17/15 01:24	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 01:24	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	12/12/15 00:00	12/17/15 01:24	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	12/12/15 00:00	12/17/15 01:24	7440-28-0	
Tin	ND	ug/L	100	2.5	1	12/12/15 00:00	12/17/15 01:24	7440-31-5	
Vanadium	**3.9J**	ug/L	25.0	2.5	1	12/12/15 00:00	12/17/15 01:24	7440-62-2	
Zinc	ND	ug/L	10.0	5.0	1	12/12/15 00:00	12/17/15 01:24	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.10	1	12/17/15 14:05	12/17/15 18:25	7439-97-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
Acetone	ND	ug/L	100	10.0	1		12/19/15 19:03	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		12/19/15 19:03	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		12/19/15 19:03	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		12/19/15 19:03	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		12/19/15 19:03	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		12/19/15 19:03	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		12/19/15 19:03	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		12/19/15 19:03	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		12/19/15 19:03	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		12/19/15 19:03	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		12/19/15 19:03	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		12/19/15 19:03	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		12/19/15 19:03	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		12/19/15 19:03	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		12/19/15 19:03	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		12/19/15 19:03	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		12/19/15 19:03	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		12/19/15 19:03	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		12/19/15 19:03	95-50-1	

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ANALYTICAL RESULTS

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Sample: 1203-SMP7 **Lab ID: 92279300003** Collected: 12/09/15 10:34 Received: 12/10/15 10:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260								
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		12/19/15 19:03	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		12/19/15 19:03	110-57-6	
Dichlorodifluoromethane	ND	ug/L	5.0	0.21	1		12/19/15 19:03	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		12/19/15 19:03	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.24	1		12/19/15 19:03	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		12/19/15 19:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		12/19/15 19:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		12/19/15 19:03	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		12/19/15 19:03	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		12/19/15 19:03	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		12/19/15 19:03	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/19/15 19:03	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		12/19/15 19:03	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		12/19/15 19:03	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		12/19/15 19:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		12/19/15 19:03	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		12/19/15 19:03	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		12/19/15 19:03	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		12/19/15 19:03	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		12/19/15 19:03	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		12/19/15 19:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		12/19/15 19:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		12/19/15 19:03	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		12/19/15 19:03	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		12/19/15 19:03	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		12/19/15 19:03	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		12/19/15 19:03	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		12/19/15 19:03	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		12/19/15 19:03	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		12/19/15 19:03	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		12/19/15 19:03	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		12/19/15 19:03	2037-26-5	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E								
Cyanide	ND	mg/L	0.010	0.0040	1		12/16/15 11:29	57-12-5	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

QC Batch: MERP/8788 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 92279300001, 92279300002, 92279300003

METHOD BLANK: 1629746 Matrix: Water
Associated Lab Samples: 92279300001, 92279300002, 92279300003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.10	12/17/15 17:42	

LABORATORY CONTROL SAMPLE: 1629747

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1629748 1629749

Parameter	Units	92279275008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.4	2.5	96	99	75-125	3	25	

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

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

QC Batch: MPRP/20260 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010A | Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92279300001, 92279300002, 92279300003

METHOD BLANK: 1627221 | Matrix: Water
Associated Lab Samples: 92279300001, 92279300002, 92279300003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	3.8	12/17/15 00:32	
Arsenic	ug/L	ND	10.0	2.5	12/17/15 00:32	
Barium	ug/L	ND	100	2.5	12/17/15 00:32	
Beryllium	ug/L	ND	1.0	0.50	12/17/15 00:32	
Cadmium	ug/L	ND	1.0	0.50	12/17/15 00:32	
Chromium	ug/L	ND	10.0	2.5	12/17/15 00:32	
Cobalt	ug/L	ND	10.0	2.5	12/17/15 00:32	
Copper	ug/L	ND	10.0	2.5	12/17/15 00:32	
Lead	ug/L	ND	10.0	2.5	12/17/15 00:32	
Nickel	ug/L	ND	50.0	2.5	12/17/15 00:32	
Selenium	ug/L	ND	10.0	5.0	12/17/15 00:32	
Silver	ug/L	ND	10.0	2.5	12/17/15 00:32	
Thallium	ug/L	ND	5.5	5.0	12/17/15 00:32	
Tin	ug/L	ND	100	2.5	12/17/15 00:32	
Vanadium	ug/L	ND	25.0	2.5	12/17/15 00:32	
Zinc	ug/L	ND	10.0	5.0	12/17/15 00:32	

LABORATORY CONTROL SAMPLE: 1627222

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	547	109	80-120	
Arsenic	ug/L	500	489	98	80-120	
Barium	ug/L	500	479	96	80-120	
Beryllium	ug/L	500	472	94	80-120	
Cadmium	ug/L	500	497	99	80-120	
Chromium	ug/L	500	464	93	80-120	
Cobalt	ug/L	500	507	101	80-120	
Copper	ug/L	500	490	98	80-120	
Lead	ug/L	500	500	100	80-120	
Nickel	ug/L	500	500	100	80-120	
Selenium	ug/L	500	506	101	80-120	
Silver	ug/L	250	254	102	80-120	
Thallium	ug/L	500	476	95	80-120	
Tin	ug/L	500	550	110	80-120	
Vanadium	ug/L	500	520	104	80-120	
Zinc	ug/L	500	515	103	80-120	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1627223 1627224

Parameter	Units	92279296001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	395	379	79	75	75-125	4	25	
Arsenic	ug/L	ND	500	500	464	454	92	91	75-125	2	25	
Barium	ug/L	151	500	500	621	624	94	95	75-125	0	25	
Beryllium	ug/L	2.8	500	500	462	461	92	92	75-125	0	25	
Cadmium	ug/L	ND	500	500	475	467	95	93	75-125	2	25	
Chromium	ug/L	6.9	500	500	464	458	91	90	75-125	1	25	
Cobalt	ug/L	12.0	500	500	493	484	96	95	75-125	2	25	
Copper	ug/L	14.9	500	500	496	492	96	95	75-125	1	25	
Lead	ug/L	8.6	500	500	476	469	94	92	75-125	2	25	
Nickel	ug/L	15.6	500	500	491	484	95	94	75-125	1	25	
Selenium	ug/L	ND	500	500	472	465	94	93	75-125	2	25	
Silver	ug/L	ND	250	250	245	242	98	97	75-125	1	25	
Thallium	ug/L	5.1J	500	500	443	440	88	87	75-125	1	25	
Tin	ug/L	ND	500	500	515	503	103	100	75-125	2	25	
Vanadium	ug/L	16.8	500	500	532	525	103	102	75-125	1	25	
Zinc	ug/L	35.2	500	500	542	538	101	101	75-125	1	25	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

QC Batch: MSV/34799 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 92279300001, 92279300002, 92279300003

METHOD BLANK: 1633901 Matrix: Water
Associated Lab Samples: 92279300001, 92279300002, 92279300003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	0.33	12/19/15 13:25	
1,1,1-Trichloroethane	ug/L	ND	1.0	0.48	12/19/15 13:25	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	0.40	12/19/15 13:25	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.29	12/19/15 13:25	
1,1-Dichloroethane	ug/L	ND	5.0	0.32	12/19/15 13:25	
1,1-Dichloroethene	ug/L	ND	5.0	0.56	12/19/15 13:25	
1,2,3-Trichloropropane	ug/L	ND	1.0	0.41	12/19/15 13:25	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	2.0	12/19/15 13:25	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	0.27	12/19/15 13:25	
1,2-Dichlorobenzene	ug/L	ND	5.0	0.30	12/19/15 13:25	
1,2-Dichloroethane	ug/L	ND	1.0	0.24	12/19/15 13:25	
1,2-Dichloropropane	ug/L	ND	1.0	0.27	12/19/15 13:25	
1,4-Dichlorobenzene	ug/L	ND	1.0	0.33	12/19/15 13:25	
2-Butanone (MEK)	ug/L	ND	100	0.96	12/19/15 13:25	
2-Hexanone	ug/L	ND	50.0	0.46	12/19/15 13:25	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	0.33	12/19/15 13:25	
Acetone	ug/L	ND	100	10.0	12/19/15 13:25	
Acrylonitrile	ug/L	ND	200	1.9	12/19/15 13:25	
Benzene	ug/L	ND	1.0	0.25	12/19/15 13:25	
Bromochloromethane	ug/L	ND	3.0	0.17	12/19/15 13:25	
Bromodichloromethane	ug/L	ND	1.0	0.18	12/19/15 13:25	
Bromoform	ug/L	ND	3.0	0.26	12/19/15 13:25	
Bromomethane	ug/L	ND	10.0	0.29	12/19/15 13:25	
Carbon disulfide	ug/L	ND	100	1.2	12/19/15 13:25	
Carbon tetrachloride	ug/L	ND	1.0	0.25	12/19/15 13:25	
Chlorobenzene	ug/L	ND	3.0	0.23	12/19/15 13:25	
Chloroethane	ug/L	ND	10.0	0.54	12/19/15 13:25	
Chloroform	ug/L	ND	5.0	0.14	12/19/15 13:25	
Chloromethane	ug/L	ND	1.0	0.11	12/19/15 13:25	
cis-1,2-Dichloroethene	ug/L	ND	5.0	0.19	12/19/15 13:25	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	12/19/15 13:25	
Dibromochloromethane	ug/L	ND	3.0	0.21	12/19/15 13:25	
Dibromomethane	ug/L	ND	10.0	0.21	12/19/15 13:25	
Dichlorodifluoromethane	ug/L	ND	5.0	0.21	12/19/15 13:25	
Ethylbenzene	ug/L	ND	1.0	0.30	12/19/15 13:25	
Iodomethane	ug/L	ND	10.0	0.32	12/19/15 13:25	
Methylene Chloride	ug/L	ND	1.0	0.97	12/19/15 13:25	
Styrene	ug/L	ND	1.0	0.26	12/19/15 13:25	
Tetrachloroethene	ug/L	ND	1.0	0.46	12/19/15 13:25	
Toluene	ug/L	ND	1.0	0.26	12/19/15 13:25	
trans-1,2-Dichloroethene	ug/L	ND	5.0	0.49	12/19/15 13:25	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

METHOD BLANK: 1633901 Matrix: Water
Associated Lab Samples: 92279300001, 92279300002, 92279300003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.26	12/19/15 13:25	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	1.0	12/19/15 13:25	
Trichloroethene	ug/L	ND	1.0	0.47	12/19/15 13:25	
Trichlorofluoromethane	ug/L	ND	1.0	0.20	12/19/15 13:25	
Vinyl acetate	ug/L	ND	50.0	0.35	12/19/15 13:25	
Vinyl chloride	ug/L	ND	1.0	0.62	12/19/15 13:25	
Xylene (Total)	ug/L	ND	5.0	0.66	12/19/15 13:25	
1,2-Dichloroethane-d4 (S)	%	102	70-130		12/19/15 13:25	
4-Bromofluorobenzene (S)	%	102	70-130		12/19/15 13:25	
Toluene-d8 (S)	%	110	70-130		12/19/15 13:25	

LABORATORY CONTROL SAMPLE: 1633902

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	52.6	105	80-125	
1,1,1-Trichloroethane	ug/L	50	55.2	110	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	52.8	106	79-124	
1,1,2-Trichloroethane	ug/L	50	53.5	107	85-125	
1,1-Dichloroethane	ug/L	50	49.3	99	73-126	
1,1-Dichloroethene	ug/L	50	54.2	108	66-135	
1,2,3-Trichloropropane	ug/L	50	50.9	102	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	50.9	102	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	55.6	111	83-124	
1,2-Dichlorobenzene	ug/L	50	51.6	103	80-133	
1,2-Dichloroethane	ug/L	50	50.1	100	67-128	
1,2-Dichloropropane	ug/L	50	49.0	98	75-132	
1,4-Dichlorobenzene	ug/L	50	53.0	106	78-130	
2-Butanone (MEK)	ug/L	100	109	109	61-144	
2-Hexanone	ug/L	100	104	104	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.9J	100	72-135	
Acetone	ug/L	100	107	107	48-146	
Acrylonitrile	ug/L	250	263	105	40-160	
Benzene	ug/L	50	52.1	104	80-125	
Bromochloromethane	ug/L	50	59.3	119	71-125	
Bromodichloromethane	ug/L	50	54.5	109	78-124	
Bromoform	ug/L	50	44.1	88	71-128	
Bromomethane	ug/L	50	45.4	91	40-160	
Carbon disulfide	ug/L	50	55.0J	110	50-160	
Carbon tetrachloride	ug/L	50	53.3	107	69-131	
Chlorobenzene	ug/L	50	53.9	108	81-122	
Chloroethane	ug/L	50	48.3	97	39-148	
Chloroform	ug/L	50	55.3	111	73-127	
Chloromethane	ug/L	50	55.9	112	44-146	
cis-1,2-Dichloroethene	ug/L	50	51.5	103	74-124	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

LABORATORY CONTROL SAMPLE: 1633902

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,3-Dichloropropene	ug/L	50	56.5	113	72-132	
Dibromochloromethane	ug/L	50	54.5	109	78-125	
Dibromomethane	ug/L	50	53.2	106	82-120	
Dichlorodifluoromethane	ug/L	50	46.6	93	34-157	
Ethylbenzene	ug/L	50	52.9	106	79-121	
Iodomethane	ug/L	100	88.7	89	39-154	
Methylene Chloride	ug/L	50	59.2	118	64-133	
Styrene	ug/L	50	53.2	106	84-126	
Tetrachloroethene	ug/L	50	53.6	107	78-122	
Toluene	ug/L	50	49.9	100	80-121	
trans-1,2-Dichloroethene	ug/L	50	51.5	103	71-127	
trans-1,3-Dichloropropene	ug/L	50	52.1	104	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	54.8J	110	40-160	
Trichloroethene	ug/L	50	55.3	111	78-122	
Trichlorofluoromethane	ug/L	50	50.8	102	53-137	
Vinyl acetate	ug/L	100	104	104	40-160	
Vinyl chloride	ug/L	50	55.3	111	58-137	
Xylene (Total)	ug/L	150	158	106	81-126	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE SAMPLE: 1633904

Parameter	Units	92279300003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	15.4	77	70-130	
1,1,1-Trichloroethane	ug/L	ND	20	19.8	99	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	16.8	84	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	16.8	84	70-130	
1,1-Dichloroethane	ug/L	ND	20	19.4	97	70-130	
1,1-Dichloroethene	ug/L	ND	20	18.9	94	70-166	
1,2,3-Trichloropropane	ug/L	ND	20	17.6	88	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	15.8	79	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	16.5	82	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	17.6	88	70-130	
1,2-Dichloroethane	ug/L	ND	20	17.4	87	70-130	
1,2-Dichloropropane	ug/L	ND	20	17.6	88	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	17.2	86	70-130	
2-Butanone (MEK)	ug/L	ND	40	36.4J	91	70-130	
2-Hexanone	ug/L	ND	40	33.6J	84	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	36.3J	91	70-130	
Acetone	ug/L	ND	40	39.6J	99	70-130	
Acrylonitrile	ug/L	ND	100	95.0J	95	70-130	
Benzene	ug/L	ND	20	18.6	93	70-148	
Bromochloromethane	ug/L	ND	20	22.4	112	70-130	

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

MATRIX SPIKE SAMPLE: 1633904

Parameter	Units	92279300003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	ND	20	17.5	87	70-130	
Bromoform	ug/L	ND	20	15.4	77	70-130	
Bromomethane	ug/L	ND	20	16.9	84	70-130	
Carbon disulfide	ug/L	ND	20	19.8J	99	70-130	
Carbon tetrachloride	ug/L	ND	20	18.3	91	70-130	
Chlorobenzene	ug/L	ND	20	18.1	90	70-146	
Chloroethane	ug/L	ND	20	16.2	81	70-130	
Chloroform	ug/L	ND	20	19.8	99	70-130	
Chloromethane	ug/L	ND	20	23.0	115	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	18.7	94	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	17.4	87	70-130	
Dibromochloromethane	ug/L	ND	20	15.3	77	70-130	
Dibromomethane	ug/L	ND	20	19.7	98	70-130	
Dichlorodifluoromethane	ug/L	ND	20	17.5	88	70-130	
Ethylbenzene	ug/L	ND	20	17.5	87	70-130	
Iodomethane	ug/L	ND	40	28.3	71	70-130	
Methylene Chloride	ug/L	ND	20	20.8	104	70-130	
Styrene	ug/L	ND	20	17.2	86	70-130	
Tetrachloroethene	ug/L	ND	20	16.9	85	70-130	
Toluene	ug/L	ND	20	19.2	96	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	20.0	100	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	15.6	78	70-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	20	16.1J	81	70-130	
Trichloroethene	ug/L	ND	20	18.1	91	69-151	
Trichlorofluoromethane	ug/L	ND	20	17.4	87	70-130	
Vinyl acetate	ug/L	ND	40	28.9J	72	70-130	
Vinyl chloride	ug/L	ND	20	20.3	102	70-130	
1,2-Dichloroethane-d4 (S)	%				109	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				107	70-130	

SAMPLE DUPLICATE: 1633903

Parameter	Units	92279300002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

SAMPLE DUPLICATE: 1633903

Parameter	Units	92279300002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Acrylonitrile	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon disulfide	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Iodomethane	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	95	98	3		
4-Bromofluorobenzene (S)	%	104	106	1		
Toluene-d8 (S)	%	111	109	2		

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QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

QC Batch: OEXT/39710 | Analysis Method: EPA 8081
QC Batch Method: EPA 3510 | Analysis Description: 8081A GCS Pesticides
Associated Lab Samples: 92279300001, 92279300002, 92279300003

METHOD BLANK: 1628602 | Matrix: Water
Associated Lab Samples: 92279300001, 92279300002, 92279300003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
alpha-BHC	ug/L	ND	0.050	0.050	12/16/15 14:33	
Decachlorobiphenyl (S)	%	63	20-130		12/16/15 14:33	
Tetrachloro-m-xylene (S)	%	65	20-130		12/16/15 14:33	

LABORATORY CONTROL SAMPLE: 1628603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
alpha-BHC	ug/L	.25	0.21	86	20-150	
Decachlorobiphenyl (S)	%			68	20-130	
Tetrachloro-m-xylene (S)	%			79	20-130	

MATRIX SPIKE SAMPLE: 1628604

Parameter	Units	92278963013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
alpha-BHC	ug/L	ND	.25	0.20	79	20-150	
Decachlorobiphenyl (S)	%				86	20-130	
Tetrachloro-m-xylene (S)	%				75	20-130	

SAMPLE DUPLICATE: 1628605

Parameter	Units	92278963014 Result	Dup Result	RPD	Max RPD	Qualifiers
alpha-BHC	ug/L	ND	ND		30	
Decachlorobiphenyl (S)	%	64	58	9		
Tetrachloro-m-xylene (S)	%	62	65	4		

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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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

QC Batch: WETA/25789 — Analysis Method: SM 4500-CN-E
QC Batch Method: SM 4500-CN-E — Analysis Description: 4500CNE Cyanide, Total
Associated Lab Samples: 92279300001, 92279300002, 92279300003

METHOD BLANK: 1628965 — Matrix: Water
Associated Lab Samples: 92279300001, 92279300002, 92279300003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.010	0.0040	12/16/15 11:20	

LABORATORY CONTROL SAMPLE: 1628966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.1	0.095	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628967 — 1628968

Parameter	Units	92279219001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	.1	.1	0.11	0.12	109	113	75-125	4	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628969 — 1628970

Parameter	Units	92279489002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	.1	.1	0.10	0.11	99	106	75-125	7	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.

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QUALIFIERS

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BURKE-JOHN'S R.-SURFACE WATER
Pace Project No.: 92279300

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92279300001	**1203-SMP5**	EPA 3510	OEXT/39710	EPA 8081	GCSV/23539
92279300002	**1203-SMP6**	EPA 3510	OEXT/39710	EPA 8081	GCSV/23539
92279300003	**1203-SMP7**	EPA 3510	OEXT/39710	EPA 8081	GCSV/23539
92279300001	**1203-SMP5**	EPA 3010A	MPRP/20260	EPA 6010	ICP/18284
92279300002	**1203-SMP6**	EPA 3010A	MPRP/20260	EPA 6010	ICP/18284
92279300003	**1203-SMP7**	EPA 3010A	MPRP/20260	EPA 6010	ICP/18284
92279300001	**1203-SMP5**	EPA 7470	MERP/8788	EPA 7470	MERC/8442
92279300002	**1203-SMP6**	EPA 7470	MERP/8788	EPA 7470	MERC/8442
92279300003	**1203-SMP7**	EPA 7470	MERP/8788	EPA 7470	MERC/8442
92279300001	**1203-SMP5**	EPA 8260	MSV/34799		
92279300002	**1203-SMP6**	EPA 8260	MSV/34799		
92279300003	**1203-SMP7**	EPA 8260	MSV/34799		
92279300001	**1203-SMP5**	SM 4500-CN-E	WETA/25789		
92279300002	**1203-SMP6**	SM 4500-CN-E	WETA/25789		
92279300003	**1203-SMP7**	SM 4500-CN-E	WETA/25789		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: November 17, 2015 Page 1 of 2*
	Document Number: **F-CHR-CS-003-rev.16.1**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Joyce Engineering

* Page 2 of 2 is for Internal Use Only

Courier: ☐ Fed Ex ☐ UPS ☐ USP ☐ Client ☐ Commercial ☐ (Pace) Other_____

Optional
Proj. Due Date:
Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☐ (Bubble Bags) ☐ None ☐ Other_____

Thermometer Used: IR Gun T1505 **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor No Correction

Corrected Cooler Temp.: 4.9 °C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Date and Initials of person examining contents: TH 12/10/15

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

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: [signature] Date: 12/10/15

SRF Review: [signature] Date: 12/11/15

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)

WO# : 92279300

92279300

Pace Analytical

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:	Joyce Engineering
Address:	2211 West Meadowview Rd
	Greensboro, NC 27407
Email To:	dgirdner@joyceengineering.com
Phone:	(336) 323-0092 Fax
Requested Due Date/TAT:	10 Day (Default)

Section B
Required Project Information:

Report To:	Van Burbach
Copy To:	Dan Girdner
Purchase Order No.	277.1601.12.02
Client Project ID:	Burke- John's R.- SURFACE WATER
Container Order Number:	

Section C
Invoice Information:

Attention:	Lecia Jones
Company Name:	Joyce Engineering
Address:	1604 Ownby Lane, Richmond, VA 23220
Pace Quote Reference:	
Pace Project Manager:	Godwin, Kevin
Pace Profile #:	

Regulatory Agency

State / Location
North Carolina

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 (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	NC Appendix I Metals	NC Appendix I VOC's	Tin	Mercury	Dichlordifluoromethane	Alpha-BHC	Cyanide	Dissolved Hydrogen					Residual Chlorine (Y/N)	92279300
1	1203-SMP5 7	WT	G			12-9-15	11:43		7			X	X	X					X	X	X	X	X	X	X							001
2	1203-SMP6 7	WT	G			12-9-15	09:50		7			X	X	X					X	X	X	X	X	X	X							002
3	1203-SMP7 7	WT	G			12-9-15	10:34		7			X	X	X					X	X	X	X	X	X	X							003
4	1203 - MW-11	WT	G			12-8-15	12 05		1	X																X						004
5	1203 - MW-12	WT	G			12-8-15	1251		1	X																X						005
6	1203 - MW 16S	WT	G			12-8-15	1330		1	X																X						006
7	1203 - MW 21	WT	G			12-8-15	1120		1	X																X						007
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] Joyce	12/10/15	1048	[signature]	12-10-15	1048				
	[signature]	12-10-15	1130	[signature] Pace TVI	12/10/15	1430	4.9	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Gretta Eller Hartley Sexton

SIGNATURE of SAMPLER: [signature] DATE Signed: 12-10-15

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

Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

December 21, 2015

Kevin Godwin
Pace Analytical Services, Inc.
9800 Kincey Avenue
Suite 100
Huntersville, NC 28078

RE: **92279300**

Pace Workorder: 17658

Dear Kevin Godwin:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, December 11, 2015. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Ruth Welsh 12/21/2015 TM
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email info@microseeps.com.

Total Number of Pages 12

CERTIFICATE OF ANALYSIS

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LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water; Solid and Chemical Materials
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water; Solid and Hazardous Waste
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

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Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 17658 92279300

Lab ID	Sample ID	Matrix	Date Collected	Date Received
176580001	1203-MW-11	Bubble Strip	12/8/2015 12:05	12/11/2015 11:00
176580002	1203-MW-12	Bubble Strip	12/8/2015 12:51	12/11/2015 11:00
176580003	1203-MW-16S	Bubble Strip	12/8/2015 13:30	12/11/2015 11:00
176580004	1203-MW-21	Bubble Strip	12/8/2015 11:20	12/11/2015 11:00

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ANALYTICAL RESULTS

Workorder: 17658 92279300

Lab ID: **176580001** Date Received: 12/11/2015 11:00 Matrix: Bubble Strip
Sample ID: **1203-MW-11** Date Collected: 12/8/2015 12:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Hydrogen	**1.6**	nM	0.60	0.088	1	12/16/2015 12:38	GT	B,n

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ANALYTICAL RESULTS

Workorder: 17658 92279300

Lab ID: **176580002** Date Received: 12/11/2015 11:00 Matrix: Bubble Strip

Sample ID: **1203-MW-12** Date Collected: 12/8/2015 12:51

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Hydrogen	**2.3**	nM	0.60	0.088	1	12/16/2015 12:50	GT	B,n

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ANALYTICAL RESULTS

Workorder: 17658 92279300

Lab ID:	**176580003**	Date Received:	12/11/2015 11:00	Matrix:	Bubble Strip
Sample ID:	**1203-MW-16S**	Date Collected:	12/8/2015 13:30		

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Hydrogen	**1.9**	nM	0.60	0.088	1	12/16/2015 13:04	GT	B,n

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ANALYTICAL RESULTS

Workorder: 17658 92279300

Lab ID: **176580004** Date Received: 12/11/2015 11:00 Matrix: Bubble Strip

Sample ID: **1203-MW-21** Date Collected: 12/8/2015 11:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Hydrogen	**2.0**	nM	0.60	0.088	1	12/16/2015 13:17	GT	B,n

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 17658 92279300

DEFINITIONS/QUALIFIERS

Disclaimer : The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAx, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.
B	The analyte was detected in the associated blank.

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QUALITY CONTROL DATA

Workorder: 17658 92279300

QC Batch: DISG/5065 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 176580001, 176580002, 176580003, 176580004

METHOD BLANK: 39274

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	0.15J	0.088	B,n

LABORATORY CONTROL SAMPLE & LCSD: 39275 39276

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Hydrogen	nM	9.5	8.7	8.7	91	91	80-120	0	20	B,n

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QUALITY CONTROL DATA QUALIFIERS

Workorder: 17658 92279300

QUALITY CONTROL PARAMETER QUALIFIERS

B	The analyte was detected in the associated blank.
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

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Fax: (412) 826-3433

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 17658 92279300

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
176580001	1203-MW-11			AM20GAX	DISG/5065
176580002	1203-MW-12			AM20GAX	DISG/5065
176580003	1203-MW-16S			AM20GAX	DISG/5065
176580004	1203-MW-21			AM20GAX	DISG/5065

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Chain of Custody

17658

Pace Analytical®
www.pacelabs.com

Workorder: 92279300 **Workorder Name:** BURKE-JOHN'S R.-SURFACE WATER **Results Requested** 12/24/2015

Report / Invoice To

Kevin Godwin
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
Phone (704)875-9092
Email: kevin.godwin@pacelabs.com

Subcontract To

Microseeps

P.O. KR614604

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						Requested Analysis: Hydrogen												LAB USE ONLY
1	1203-MW-11	12/8/2015 12:05	92279300004	Water	1						X												
2	1203-MW-12	12/8/2015 12:51	92279300005	Water	1						X												
3	1203-MW-16S	12/8/2015 13:30	92279300006	Water	1						X												
4	1203-MW-21	12/8/2015 11:20	92279300007	Water	1						X												
5																							

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible signature]	12/10/15 17:00	[illegible signature] PAS	12.11.15
2				1100
3				

Comments

report MDL & J-Flags

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.

Appendix C

Statistical Analyses Worksheets

JOYCE Project: **Burke County - John's River Landfill**
Project No: 277.1601.12
Date: 08-Dec-15

Analyte: **Thallium**

Sample No.	Sample Date	Location	Concentration (µg/L)	Quantitation Limit (µg/L)	Sorted Concentration (µg/L)
1	5/1/1998	MW-9	ND	1	0.042
2	11/1/1998	MW-9	ND	1	2.0
3	5/11/1999	MW-9	2.0	2	3.0
4	10/18/1999	MW-9	ND	10	16.0
5	5/3/2000	MW-9	ND	10	ND
6	11/7/2000	MW-9	ND	10	ND
7	5/31/2001	MW-9	ND	10	ND
8	11/7/2001	MW-9	ND	10	ND
9	5/22/2002	MW-9	ND	10	ND
10	11/14/2002	MW-9	ND	10	ND
11	5/14/2003	MW-9	ND	10	ND
12	11/20/2003	MW-9	ND	10	ND
13	5/6/2004	MW-9	ND	10	ND
14	11/10/2004	MW-9	ND	10	ND
15	5/5/2005	MW-9	16.0	10	ND
16	5/11/1999	MW-17	3.0	2	ND
17	10/18/1999	MW-17	ND	10	ND
18	5/3/2000	MW-17	ND	10	ND
19	11/7/2000	MW-17	ND	10	ND
20	5/31/2001	MW-17	ND	10	ND
21	11/7/2001	MW-17	ND	10	ND
22	5/22/2002	MW-17	ND	10	ND
23	11/14/2002	MW-17	ND	10	ND
24	5/14/2003	MW-17	ND	10	ND
25	11/20/2003	MW-17	ND	10	ND
26	5/6/2004	MW-17	ND	10	ND
27	11/10/2004	MW-17	ND	10	ND
28	5/5/2005	MW-17	ND	10	ND
29	11/3/2005	MW-17	ND	10	ND
30	5/25/2006	MW-17	ND	10	ND
31	11/2/2006	MW-17	ND	10	ND
32	5/30/2007	MW-17	ND	5.5	ND
33	11/29/2007	MW-17	0.042	5.5	ND
34	5/29/2008	MW-17	ND	5.5	ND
35	11/6/2008	MW-17	ND	5.5	ND
36	6/3/2009	MW-17	ND	5.5	ND
37	11/18/2009	MW-17	ND	5.5	ND
38	6/16/2010	MW-17	ND	5.5	ND
39	6/1/2011	MW-17	ND	5.5	ND
40	12/1/2010	MW-20	ND	5.5	ND
41	6/1/2011	MW-20	ND	5.5	ND
42	12/20/2011	MW-20	ND	5.5	ND
43	5/30/2012	MW-20	ND	5.5	ND
44	12/5/2012	MW-20	ND	5.5	ND
45	6/12/2013	MW-20	ND	5.5	ND
46	10/28/2013	MW-20	ND	5.5	ND
47	5/6/2014	MW-20	ND	5.5	ND
48	10/23/2014	MW-21	ND	5.5	ND
49	5/20/2015	MW-21	ND	5.5	ND
50	12/8/2015	MW-21	ND	5.5	ND

Number of Data:	50
Number of Truncated Data:	46
Percentage of Truncated Data:	92%

Upper Poisson Prediction Limit: 37

Note:
All concentrations in micrograms per liter (µg/L).
ND = Not detected (truncated).

Appendix D

Historical Detected Groundwater Constituents

APPENDIX D:
HISTORICAL DETECTED GROUNDWATER CONSTITUENTS

Analyte	Sample Collect Date	EPA Method	DL	RL	MW-21	MW-20	MW-22S	MW-38	Blanks
Inorganic Compounds									
Alkalinity, Total as CaCO3	10-Apr-14	SM 2320B	1,000	5,000	1,560 J	---	5,510	208,000	ND
NC 2L = NE (01/01/10)	6-May-14	SM 2320B	1,000	5,000	1,170 J	---	4,060 J	209,000	ND
	20-Jun-14	SM 2320B	1,000	5,000	2,020 J	---	4,060 J	262,000	ND
	17-Jul-14	SM 2320B	1,000	5,000	1,990 J	---	3,960 J	197,000	ND
	23-Oct-14	SM 2320B	1,000	5,000	1,360 J	7,980	4,340 J	232,000	ND
	21-May-15	SM 2320B	1,000	5,000	ND	6,540	3,630 J	206,000	---
	8-Dec-15	SM 2320B	1,000	5,000	1,030 J	8,280	6,670	234,000	---
Arsenic	8-Dec-15	EPA 6010	2.5	10	ND	ND	**12.7**	4.9 J	ND
NC 2L = 10 µg/L (01/01/10)	4-Feb-16	EPA 6010	2.5	10	---	---	5.8 J	---	ND
Barium	10-Apr-14	EPA 6010	5	100	14.4 J	---	86.9 J	127	ND
NC 2L = 700 µg/L (01/01/10)	6-May-14	EPA 6010	5	100	11.7 J	---	75.7 J	110	ND
	20-Jun-14	EPA 6010	5	100	14.2 J	---	52.2 J	85.2 J	ND
	17-Jul-14	EPA 6010	5	100	14.4 J	---	52.4 J	58.1 J	ND
	23-Oct-14	EPA 6010	5.0	100	20.3 J	70.0 J	20.8 J	97.8 J	ND
	21-May-15	EPA 6010	5.0	100	17.9 J	116.0	28.3 J	91 J	ND
	8-Dec-15	EPA 6010	2.5	100	17.6 J	67.3 J	**1110**	83.5 J	ND
Verification Sample >	4-Feb-16	EPA 6010	2.5	100	---	---	264	---	ND
Beryllium	8-Dec-15	EPA 6010	0.5	1	ND	ND	**3.4**	ND	ND
GWPS = 4 µg/L (01/01/10). *Verification Sample >*	4-Feb-16	EPA 6010	0.5	1	---	---	0.83 J	---	ND
Chloride	10-Apr-14	SM 4500-Cl-E	1,000	1,000	ND	---	ND	4,980	ND
NC 2L = 250,000 µg/L (01/01/10)	6-May-14	SM 4500-Cl-E	1,000	1,000	ND	---	1,140	4,930	ND
	20-Jun-14	SM 4500-Cl-E	1,000	1,000	ND	---	1,320	4,410	ND
	17-Jul-14	SM 4500-Cl-E	500	1,000	570 J	---	1,090	4,310	ND
	23-Oct-14	SM 4500-Cl-E	500	1,000	ND	1,050	727 J	4,650	ND
	21-May-15	SM 4500-Cl-E	500	1,000	750 J	1,550	1,380	4,980	---
	8-Dec-15	SM 4500-Cl-E	500	1,000	859 J	1,840	4,200	4,390	---
Chromium	10-Apr-14	EPA 6010	5.0	10.0	ND	---	ND	ND	ND
NC 2L = 10 µg/L (01/01/10)	6-May-14	EPA 6010	5.0	10.0	ND	---	ND	ND	ND
	20-Jun-14	EPA 6010	5.0	10.0	ND	---	ND	ND	ND
	17-Jul-14	EPA 6010	5.0	10.0	ND	---	ND	ND	ND
	23-Oct-14	EPA 6010	5.0	10.0	ND	7.0 J	ND	ND	ND
	21-May-15	EPA 6010	5.0	10.0	ND	7.4 J	ND	ND	ND
	8-Dec-15	EPA 6010	2.5	10.0	ND	4.7 J	**16.8**	ND	ND
Verification Sample >	4-Feb-16	EPA 6010	2.5	10.0	---	---	6.6 J	---	ND
Cobalt	10-Apr-14	EPA 6010	5	10	ND	---	ND	**80.8**	ND
GWPS = 1 µg/L (10/1/10)	6-May-14	EPA 6010	5	10	ND	---	ND	**58.0**	ND
	20-Jun-14	EPA 6010	5	10	ND	---	ND	**12.5**	ND
	17-Jul-14	EPA 6010	5	10	ND	---	ND	**18.9**	ND
	23-Oct-14	EPA 6010	5.0	10.0	ND	ND	ND	**21.5**	ND
	21-May-15	EPA 6010	5.0	10.0	ND	2.9 J	ND	**10.5**	ND
	8-Dec-15	EPA 6010	2.5	10.0	ND	ND	**11.2**	4.1 J	ND
Verification Sample >	4-Feb-16	EPA 6010	2.5	10.0	---	---	3.2 J	---	ND
Copper	8-Dec-15	EPA 6010	2.5	10.0	ND	J	**30.0**	3.3 J	ND
NC 2L = 1,000 µg/L (01/01/10). *Verif. Sample >*	4-Feb-16	EPA 6010	2.5	10.0	---	---	10.4	---	ND
Iron	10-Apr-14	EPA 6010	50	300	ND	---	**559**	**22,800**	ND
NC 2L = 300 µg/L (01/01/10)	6-May-14	EPA 6010	50	300	177 J	---	**3,930**	**16,300**	ND
	20-Jun-14	EPA 6010	50	300	200 J	---	**402**	**14,400**	ND
	17-Jul-14	EPA 6010	50	300	**381**	---	**2,280**	**4,390**	ND
	23-Oct-14	EPA 6010	50.0	300	**2,340**	**3,990**	**719**	**16,700**	ND
	21-May-15	EPA 6010	50.0	300	**350**	**6,660**	295 J	**16,100**	ND
	8-Dec-15	EPA 6010	25.0	300	**1,380**	**3,590**	**29,700**	**27,800**	ND
Verification Sample >	4-Feb-16	EPA 6010	25.0	300	---	---	**9,840**	---	ND
Lead	8-Dec-15	EPA 6010	2.5	10.0	ND	3.0 J	**39.4**	3.2 J	ND
NC 2L = 15 µg/L (01/01/10)	4-Feb-16	EPA 6010	2.5	10.0	---	---	10.5	---	ND
Manganese	10-Apr-14	EPA 6010	5	50	20.8 J	---	**132**	**5,450**	ND
NC 2L = 50 µg/L (01/01/10)	6-May-14	EPA 6010	5	50	22.5 J	---	**77.5**	**4,830**	ND
	20-Jun-14	EPA 6010	5	50	24.7 J	---	**52.2**	**3,790**	ND
	17-Jul-14	EPA 6010	5	50	27.9 J	---	39.8 J	**3,380**	ND
	23-Oct-14	EPA 6010	5.0	50.0	**73.6**	**77.5**	16.6 J	**3,930**	ND
	21-May-15	EPA 6010	5.0	50.0	27.4 J	**146**	11.7 J	**3,060**	ND
	8-Dec-15	EPA 6010	2.5	50.0	50.0 J	**68.5**	**462**	**3,220**	ND
Verification Sample >	4-Feb-16	EPA 6010	2.5	50.0	---	---	**124**	---	ND

APPENDIX D:
HISTORICAL DETECTED GROUNDWATER CONSTITUENTS

Analyte	Sample Collect Date	EPA Method	DL	RL	MW-21	MW-20	MW-22S	MW-38	Blanks
Nickel	10-Apr-14	EPA 6010	5	50	ND	---	ND	ND	ND
NC 2L = 100 µg/L (10/23/07)	6-May-14	EPA 6008	5	50	ND	---	ND	10.6 J	ND
	20-Jun-14	EPA 6009	5	50	ND	---	ND	ND	ND
	17-Jul-14	EPA 6010	5	50	ND	---	ND	5 J	ND
	23-Oct-14	EPA 6010	5.0	50.0	ND	ND	ND	5.1 J	ND
	21-May-15	EPA 6010	5.0	50.0	ND	4.3	ND	4.3 J	ND
	8-Dec-15	EPA 6010	2.5	50.0	ND	2.5 J	18.7 J	3.0 J	ND
Verification Sample >	4-Feb-16	EPA 6010	2.5	50.0	---	---	5.7 J	---	ND
Thallium	8-Dec-15	EPA 6010	5.0	5.5	ND	ND	ND	ND J	ND
GWPS = 0.28 µg/L	4-Feb-16	EPA 6010	2.5	50.0	---	---	**9.1**	---	ND
Sulfate	10-Apr-14	EPA 300.0	2,000	250,000	ND	---	2,110 J	3,430 J	ND
NC 2L = 250,000 µg/L (01/01/10)	6-May-14	EPA 300.0	2,000	250,000	ND	---	8,740 J	ND	ND
	20-Jun-14	EPA 300.0	2,000	250,000	ND	---	ND	10,100 J	ND
	17-Jul-14	EPA 300.0	1,000	250,000	1,340 J	---	1,560 J	8,720 J	ND
	23-Oct-14	EPA 300.0	1,000	250,000	ND	1,300 J	1,320 J	3,320 J	ND
	21-May-15	EPA 300.0	1,000	250,000	ND	ND	ND	2,650 J	ND
	8-Dec-15	EPA 300.0	1,000	250,000	ND	ND	ND	4,640 J	ND
Total Dissolved Solids, Dissolved	10-Apr-14	SM 2540C	25,000	25,000	37,000	---	68,000	302,000	ND
NC 2L = 500,000 µg/L (01/01/10)	6-May-14	SM 2540C	25,000	25,000	ND	---	30,000	257,000	ND
	20-Jun-14	SM 2540C	25,000	25,000	ND	---	ND	301,000	ND
	17-Jul-14	SM 2540C	25,000	25,000	ND	---	ND	245,000	ND
	23-Oct-14	SM 2540C	25,000	25,000	ND	25,000	ND	265,000	ND
	21-May-15	SM 2540C	25,000	25,000	ND	36,000	29,000	268,000	---
	8-Dec-15	SM 2540C	25,000	25,000	ND	31,000	96,000	311,000	---
Vanadium	10-Apr-14	EPA 6010	5	25	ND	---	ND	ND	ND
GWPS = 0.3 µg/L (10/1/10)	6-May-14	EPA 6010	5	25	ND	---	7.3 J	ND	ND
	20-Jun-14	EPA 6010	5	25	ND	---	ND	ND	ND
	17-Jul-14	EPA 6010	5	25	ND	---	ND	ND	ND
	23-Oct-14	EPA 6010	5.0	25.0	9.6 J	6.5 J	ND	ND	ND
	21-May-15	EPA 6010	5.0	25.0	ND	11.6	ND	4 J	ND
	8-Dec-15	EPA 6010	2.5	25.0	ND J	6.9 J	**44.8**	8.5 J	ND
Verification Sample >	4-Feb-16	EPA 6010	2.5	50.0	---	---	16.0 J	---	ND
Zinc	10-Apr-14	EPA 6010	10	10	ND	---	19.6	ND	ND
NC 2L = 1,000 µg/L (01/01/10)	6-May-14	EPA 6010	10	10	ND	---	15.5	15.8	ND
	20-Jun-14	EPA 6010	10	10	ND	---	ND	ND	10.9
	17-Jul-14	EPA 6010	10	10	ND	---	ND	12.5 B	10.5
	23-Oct-14	EPA 6010	10.0	10.0	ND	12.8	ND	ND	ND
	21-May-15	EPA 6010	10.0	10.0	26.4	19.7	ND	ND	ND
	8-Dec-15	EPA 6010	5.0	10.0	ND	10.3	127	8.7 J	ND
Verification Sample >	4-Feb-16	EPA 6010	5.0	10.0	---	---	36.5	ND	ND
Organic Compounds									
Acetone	10-Apr-14	EPA 8260	10.0	100.0	ND	---	ND	10.2 J	ND
NC 2L = 6,000 µg/L	6-May-14	EPA 8260	10.0	100.0	ND	---	ND	ND	ND
	20-Jun-14	EPA 8260	10.0	100.0	ND	---	ND	ND	ND
	17-Jul-14	EPA 8260	10.0	100.0	ND	---	ND	ND	ND
	23-Oct-14	EPA 8260	10.0	100.0	ND	ND	ND	ND	ND
	21-May-15	EPA 8260	10.0	100.0	ND	ND	ND	ND	ND
	8-Dec-15	EPA 8260	10.0	100.0	ND	ND	ND	ND	ND
Benzene	10-Apr-14	EPA 8260	0.25	1	ND	---	ND	**6.6**	ND
NC 2L = 1 µg/L (10/23/07)	6-May-14	EPA 8260	0.25	1	ND	---	ND	**6.5**	ND
	20-Jun-14	EPA 8260	0.25	1	ND	---	ND	**5.5**	ND
	17-Jul-14	EPA 8260	0.25	1	ND	---	ND	**4.6**	ND
	23-Oct-14	EPA 8260	0.25	1.0	ND	ND	ND	**5.9**	ND
	21-May-15	EPA 8260	0.25	1.0	ND	ND	ND	**4.9**	ND
	8-Dec-15	EPA 8260	0.25	1.0	ND	ND	ND	**4.4**	ND
Chlorobenzene	10-Apr-14	EPA 8260	0.23	3	ND	---	ND	0.71 J	ND
NC 2L = 50 µg/L (10/23/07)	6-May-14	EPA 8260	0.23	3	ND	---	ND	0.6 J	ND
	20-Jun-14	EPA 8260	0.23	3	ND	---	ND	0.5 J	ND
	17-Jul-14	EPA 8260	0.23	3	ND	---	ND	0.61 J	ND
	23-Oct-14	EPA 8260	0.23	3.0	ND	ND	ND	0.61 J	ND
	21-May-15	EPA 8260	0.23	3.0	ND	ND	ND	0.51 J	ND
	8-Dec-15	EPA 8260	0.23	3.0	ND	ND	ND	0.49 J	ND

APPENDIX D:
HISTORICAL DETECTED GROUNDWATER CONSTITUENTS

Analyte	Sample Collect Date	EPA Method	DL	RL	MW-21	MW-20	MW-22S	MW-38	Blanks
1,2-Dichlorobenzene	10-Apr-14	EPA 8260	0.3	5	ND	---	ND	0.3 J	ND
NC 2L = 20 µg/L (01/01/10)	6-May-14	EPA 8260	0.3	5	ND	---	ND	0.36 J	ND
	20-Jun-14	EPA 8260	0.3	5	ND	---	ND	ND	ND
	17-Jul-14	EPA 8260	0.3	5	ND	---	ND	ND	ND
	23-Oct-14	EPA 8260	0.30	5.0	ND	ND	ND	0.31 J	ND
	21-May-15	EPA 8260	0.30	5.0	ND	ND	ND	ND	ND
	8-Dec-15	EPA 8260	0.30	5.0	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	10-Apr-14	EPA 8260	0.33	1	ND	---	ND	**13.9**	ND
NC 2L = 6 µg/L (01/01/10)	6-May-14	EPA 8260	0.33	1	ND	---	ND	**13.5**	ND
	20-Jun-14	EPA 8260	0.33	1	ND	---	ND	**9.9**	ND
	17-Jul-14	EPA 8260	0.33	1	ND	---	ND	**13.0**	ND
	23-Oct-14	EPA 8260	0.33	1.0	ND	ND	ND	**12.9**	ND
	21-May-15	EPA 8260	0.33	1.0	ND	ND	ND	**12.3**	ND
	8-Dec-15	EPA 8260	0.33	1.0	ND	ND	ND	**12.2**	ND
1,1-Dichloroethane	10-Apr-14	EPA 8260	0.32	5	ND	---	ND	**8.6**	ND
NC 2L = 6 µg/L (01/01/10)	6-May-14	EPA 8260	0.32	5	ND	---	ND	**8.1**	ND
	20-Jun-14	EPA 8260	0.32	5	ND	---	ND	**8.0**	ND
	17-Jul-14	EPA 8260	0.32	5	ND	---	ND	5.7	ND
	23-Oct-14	EPA 8260	0.32	5.0	ND	ND	ND	**6.9**	ND
	21-May-15	EPA 8260	0.32	5.0	ND	ND	ND	**5.5**	ND
	8-Dec-15	EPA 8260	0.32	5.0	ND	ND	ND	**7.2**	ND
1,2-Dichloroethane	10-Apr-14	EPA 8260	0.12	1	ND	---	ND	0.77 J	ND
NC 2L = 0.4 µg/L (01/01/10)	6-May-14	EPA 8260	0.12	1	ND	---	ND	ND	ND
	20-Jun-14	EPA 8260	0.12	1	ND	---	ND	0.63 J	ND
	17-Jul-14	EPA 8260	0.12	1	ND	---	ND	0.79 J	ND
	23-Oct-14	EPA 8260	0.12	1.0	ND	ND	ND	0.63 J	ND
	21-May-15	EPA 8260	0.12	1.0	ND	ND	ND	ND	ND
	8-Dec-15	EPA 8260	0.24	1.0	ND	ND	ND	0.70 J	ND
cis-1,2-Dichloroethene	10-Apr-14	EPA 8260	0.19	5	ND	---	ND	19.6	ND
NC 2L = 70 µg/L (10/23/07)	6-May-14	EPA 8260	0.19	5	ND	---	ND	17.1	ND
	20-Jun-14	EPA 8260	0.19	5	ND	---	ND	16	ND
	17-Jul-14	EPA 8260	0.19	5	ND	---	ND	14.1	ND
	23-Oct-14	EPA 8260	0.19	5.0	ND	ND	ND	16.3	ND
	21-May-15	EPA 8260	0.19	5.0	ND	ND	ND	12.1	ND
	8-Dec-15	EPA 8260	0.19	5.0	ND	ND	ND	14.7	ND
Ethylbenzene	10-Apr-14	EPA 8260	0.3	1	ND	---	ND	1.2	ND
NC 2L = 600 µg/L (01/01/10)	6-May-14	EPA 8260	0.3	1	ND	---	ND	1.3	ND
	20-Jun-14	EPA 8260	0.3	1	ND	---	ND	0.77 J	ND
	17-Jul-14	EPA 8260	0.3	1	ND	---	ND	0.64 J	ND
	23-Oct-14	EPA 8260	0.30	1.0	ND	ND	ND	1.3	ND
	21-May-15	EPA 8260	0.30	1.0	ND	ND	ND	1.1	ND
	8-Dec-15	EPA 8260	0.30	1.0	ND	ND	ND	ND	ND
2-Hexanone (MBK)	10-Apr-14	EPA 8260	0.46	50	ND	---	0.55 J	ND	ND
GWPS = 280 µg/L (01/01/10)	6-May-14	EPA 8260	0.46	50	ND	---	ND	ND	ND
	20-Jun-14	EPA 8260	0.46	50	ND	---	ND	ND	ND
	17-Jul-14	EPA 8260	0.46	50	ND	---	ND	ND	ND
	23-Oct-14	EPA 8260	0.46	50	ND	ND	ND	ND	ND
GWPS = 280 µg/L (02/01/15)	21-May-15	EPA 8260	0.46	50	ND	ND	ND	ND	ND
	8-Dec-15	EPA 8260	0.46	50	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	10-Apr-14	EPA 8260	0.33	100	ND	---	ND	3.7 J	ND
GWPS = 560 µg/L (12/7/10)	6-May-14	EPA 8260	0.33	100	ND	---	ND	8.2 J	ND
	20-Jun-14	EPA 8260	0.33	100	ND	---	ND	ND	ND
	17-Jul-14	EPA 8260	0.33	100	ND	---	ND	ND	ND
	23-Oct-14	EPA 8260	0.33	100.0	ND	ND	ND	1.5 J	ND
	21-May-15	EPA 8260	0.33	100.0	ND		ND	ND	ND
	8-Dec-15	EPA 8260	0.33	100.0	ND	ND	ND	ND	ND
Methane	10-Apr-14	RSK 174	3.3	6.6	---	---	---	---	---
	6-May-14	RSK 175	3.3	6.6	---	---	---	4,150	---
	20-Jun-14	RSK 176	3.3	6.6	---	---	---	---	---
	17-Jul-14	RSK 177	3.3	6.6	---	---	---	---	---
	23-Oct-14	RSK 175	3.3	6.6	---	---	---	6,820	---
	21-May-15	RSK 175	3.3	6.6	---	---	---	4,900	---
	8-Dec-15	RSK 175	3.3	6.6	---	---	---	3,112	2.0 J

APPENDIX D:
HISTORICAL DETECTED GROUNDWATER CONSTITUENTS

Analyte	Sample Collect Date	EPA Method	DL	RL	MW-21	MW-20	MW-22S	MW-38		Blanks
Methylene Chloride	8-Dec-15	EPA 8260	1.0	1.0	ND	ND	ND	ND		**2.0**
NC 2L = 5 (02/01/15)										
Tetrahydrofuran	10-Apr-14	EPA 8260	3.1	10	ND	---	ND	923		ND
NC 2L = NE (01/01/10)	6-May-14	EPA 8260	3.1	10	ND	---	ND	848		ND
	20-Jun-14	EPA 8260	3.1	10	ND	---	ND	758		ND
	17-Jul-14	EPA 8260	3.1	10	ND	---	ND	841		ND
	23-Oct-14	EPA 8260	3.1	10.0	ND	ND	ND	744		ND
	21-May-15	EPA 8260	3.1	10.0	ND	ND	ND	407		ND
	8-Dec-15	EPA 8260	3.1	10.0	ND	ND	ND	39.1		ND
Toluene	10-Apr-14	EPA 8260	0.26	1	ND	---	ND	0.62	J	ND
NC 2L = 600 µg/L (01/01/10)	6-May-14	EPA 8260	0.26	1	ND	---	ND	0.68	J	ND
	20-Jun-14	EPA 8260	0.26	1	ND	---	ND	0.32	J	ND
	17-Jul-14	EPA 8260	0.26	1	ND	---	ND	0.28	J	ND
	23-Oct-14	EPA 8260	0.26	1.0	ND	ND	ND	0.66	J	ND
	21-May-15	EPA 8260	0.26	1.0	ND	ND	ND	0.48	J	ND
	8-Dec-15	EPA 8260	0.26	1.0	ND	ND	ND	ND		ND
Trichloroethene	10-Apr-14	EPA 8260	0.47	1	ND	---	ND	2.7		ND
NC 2L = 3 µg/L (01/01/10)	6-May-14	EPA 8260	0.47	1	ND	---	ND	2.1		ND
	20-Jun-14	EPA 8260	0.47	1	ND	---	ND	2.2		ND
	17-Jul-14	EPA 8260	0.47	1	ND	---	ND	2.5		ND
	23-Oct-14	EPA 8260	0.47	1.0	ND	ND	ND	1.8		ND
	21-May-15	EPA 8260	0.47	1.0	ND	ND	ND	0.92	J	ND
	8-Dec-15	EPA 8260	0.47	1.0	ND	ND	ND	2.1		ND
Xylene (Total)	10-Apr-14	EPA 8260	0.66	5	ND	---	ND	16.9		ND
NC 2L = 500 µg/L (01/01/10)	6-May-14	EPA 8260	0.66	5	ND	---	ND	19.3		ND
	20-Jun-14	EPA 8260	0.66	5	ND	---	ND	2.5	J	ND
	17-Jul-14	EPA 8260	0.66	5	ND	---	ND	8.8		ND
	23-Oct-14	EPA 8260	0.66	5.0	ND	ND	ND	18.7		ND
	21-May-15	EPA 8260	0.66	5.0	ND	ND	ND	17.1		ND
	8-Dec-15	EPA 8260	0.66	5.0	ND	ND	ND	1.6	J	ND

Notes:

All concentrations in micrograms per liter (µg/L) = parts per billion.

RL = Reporting Limit (SWSL).

DL = Laboratory Detection Limit.

--- = Not sampled for this parameter or Not reported.

ND = Not Detected at or above the DL.

J = Estimated value - concentration is less than the RL but greater than the DL.

B = Blank-Qualified (Concentration suspected to reflect laboratory or field contamination based on similar concentrations detected in field, trip, or method blanks).

NC 2L = Groundwater Standard from 15A NCAC 2L.0202.

GWPS = Groundwater Protection Standard set by NC-DENR-SWS for constituents with no listed NC 2L standard.

NE = No NC 2L or GWPS established.

Values above the NC 2L Standard or GWPS are **bold.**

Background data: April to July 2014.

Verification Sampling Event for metals in MW-22S was performed on February 4, 2016

Appendix E

Historical Detected Constituents in Additional Wells and Piezometers

APPENDIX E:
DETECTED CONSTITUENTS IN ADDITIONAL WELLS/PIEZOMETERS

Analyte	Sample Collection Date	DL	RL	MW-36	MW-15S	PZ-12	PZ-30S	PZ-31	PZ-34	Blanks
Organic Compounds										
Acetone	18-Feb-13	10.0	100	19.8 J	---	---	ND	---	---	ND
	18-Jul-13	10.0	100	---	---	---	---	ND	ND	15.80 J
NC 2L = 6,000 µg/L (01/01/10)	6-May-14	10.0	100	---	---	---	---	---	nle	ND
	22-Oct-14	10.0	100	---	---	---	---	---	nle	ND
	21-May-15	10.0	100	---	---	---	---	---	nle	ND
	9-Dec-16	10.0	100	---	---	---	---	---	nle	ND
Benzene	18-Feb-13	0.25	1.0	**8.0**	---	---	ND	---	---	ND
	18-Jul-13	0.25	1.0	---	---	---	---	**7.6**	ND	ND
NC 2L = 1 µg/L (10/23/07)	6-May-14	0.25	1.0	**8.7**	**4.6**	---	ND	ND	nle	ND
	22-Oct-14	0.25	1.0	**8.3**	**3.3**	ND	ND	ND	nle	ND
	21-May-15	0.25	1.0	**5.8**	**2.0**	ND	ND	ND	nle	ND
	9-Dec-15	0.25	1.0	**5.8**	**1.2**	ND	ND	ND	---	---
Chlorobenzene	18-Feb-13	0.23	3.0	0.760 J	---	---	ND	---	---	ND
	18-Jul-13	0.23	3.0	---	---	---	---	0.480 J	ND	ND
NC 2L = 50 µg/L (10/23/07)	6-May-14	0.23	3.0	---	---	---	---	---	nle	ND
	22-Oct-14	0.23	3.0	---	---	---	---	---	nle	ND
	21-May-15	0.23	3.0	---	---	---	---	---	nle	ND
	9-Dec-16	0.23	3.0	---	---	---	---	---	nle	ND
Chloroethane	18-Feb-13	0.54	10.0	1.10 J	---	---	ND	---	---	ND
	18-Jul-13	0.54	10.0	---	---	---	---	ND	ND	ND
NC 2L = 3,000 µg/L (01/01/10)	6-May-14	0.54	10.0	---	---	---	---	---	nle	ND
	22-Oct-14	0.54	10.0	---	---	---	---	---	nle	ND
	21-May-15	0.54	10.0	---	---	---	---	---	nle	ND
	9-Dec-16	0.54	10.0	---	---	---	---	---	nle	ND
1,2-Dichlorobenzene	18-Feb-13	0.30	5.0	0.44 J	---	---	ND	---	---	ND
	18-Jul-13	0.30	5.0	---	---	---	---	0.61 J	ND	ND
NC 2L = 20 µg/L (01/01/10)	6-May-14	0.30	5.0	---	---	---	---	---	nle	ND
	22-Oct-14	0.30	5.0	---	---	---	---	---	nle	ND
	21-May-15	0.30	5.0	---	---	---	---	---	nle	ND
	9-Dec-16	0.30	5.0	---	---	---	---	---	nle	ND
1,4-Dichlorobenzene	18-Feb-13	0.33	1.0	**18.0**	---	---	ND	---	---	ND
	18-Jul-13	0.33	1.0	---	---	---	---	**6.5**	ND	ND
NC 2L = 6 µg/L (01/01/10)	6-May-14	0.33	1.0	**10.0**	2.3	---	ND	ND	nle	ND
	22-Oct-14	0.33	1.0	**15.2**	1.6	ND	ND	ND	nle	ND
	21-May-15	0.33	1.0	**18.7**	1.4	ND	ND	ND	---	---
	9-Dec-15	0.33	1.0	**19.6**	1.0	ND	ND	ND	---	---
1,1-Dichloroethane	18-Feb-13	0.32	5.0	**7.9**	---	---	ND	---	---	ND
	18-Jul-13	0.32	5.0	---	---	---	---	**11.3**	ND	ND
NC 2L = 6 µg/L (01/01/10)	6-May-14	0.32	5.0	**11.6**	**7.1**	---	ND	ND	nle	ND
	22-Oct-14	0.32	5.0	**9.0**	4.9 J	ND	ND	ND	nle	ND
	21-May-15	0.32	5.0	**4.8 J**	2.4 J	ND	ND	ND	---	---
	9-Dec-15	0.32	5.0	5.9	2.2 J	ND	ND	ND	---	---
1,2-Dichloroethane	18-Feb-13	0.12	1.0	**1.0**	---	---	ND	---	---	ND
	18-Jul-13	0.12	1.0	---	---	---	---	0.54 J	ND	ND
NC 2L = 0.4 µg/L (01/01/10)	6-May-14	0.12	1.0	0.78 J	ND	---	ND	ND	nle	ND
	22-Oct-14	0.12	1.0	0.92 J	ND	ND	ND	ND	nle	ND
	21-May-15	0.12	1.0	ND	ND	ND	ND	ND	---	---
	9-Dec-15	0.24	1.0	0.66 J	ND	ND	ND	ND	---	---
cis-1,2-Dichloroethylene	18-Feb-13	0.19	5.0	21.0	---	---	ND	---	---	ND
	18-Jul-13	0.19	5.0	---	---	---	---	19.3	ND	ND
NC 2L = 70 µg/L (10/23/07)	6-May-14	0.19	5.0	---	---	---	---	---	nle	ND
	22-Oct-14	0.19	5.0	---	---	---	---	---	nle	ND
	21-May-15	0.19	5.0	---	---	---	---	---	nle	ND
	9-Dec-16	0.19	5.0	---	---	---	---	---	nle	ND
Ethylbenzene	18-Feb-13	0.30	1.0	23.2	---	---	ND	---	---	ND
	18-Jul-13	0.30	1.0	---	---	---	---	0.94 J	ND	ND
NC 2L = 600 µg/L (01/01/10)	6-May-14	0.30	1.0	---	---	---	---	---	nle	ND
	22-Oct-14	0.30	1.0	---	---	---	---	---	nle	ND
	21-May-15	0.30	1.0	---	---	---	---	---	nle	ND
	9-Dec-16	0.30	1.0	---	---	---	---	---	nle	ND

APPENDIX E:
DETECTED CONSTITUENTS IN ADDITIONAL WELLS/PIEZOMETERS

Analyte	Sample Collection Date	DL	RL	MW-36	MW-15S	PZ-12	PZ-30S	PZ-31	PZ-34	Blanks
Methylene Chloride	18-Feb-13	0.97	1.0	**17.9**	---	---	ND	---	---	ND
	18-Jul-13	0.97	1.0	NS	---	---	---	**16.4**	ND	ND
NC 2L = 5 µg/L (01/01/10)	6-May-14	0.97	1.0	**24.1**	**16.7**	---	ND	ND	nle	2.20
	22-Oct-14	0.97	1.0	**15.7**	1.6	ND	ND	ND	nle	ND
	21-May-15	0.97	1.0	9.5 B	4.4 B	ND	ND	ND	---	1.70
	9-Dec-15	0.97	1.0	11.2 B	2.6 B	ND	ND	ND	---	2.00
Tetrachloroethene	18-Feb-13	0.46	1.0	**5.5**	---	---	ND	---	---	ND
	18-Jul-13	0.46	1.0	NS	---	---	---	**7.8**	ND	ND
NC 2L = 0.7 µg/L (10/23/07)	6-May-14	0.46	1.0	**7.9**	**6.9**	---	ND	ND	nle	ND
	22-Oct-14	0.46	1.0	**7.3**	**5.2**	ND	ND	ND	nle	ND
	21-May-15	0.46	1.0	**6.0**	**3.3**	ND	ND	ND	---	---
	9-Dec-15	0.46	1.0	**5.0**	**2.1**	ND	ND	ND	---	---
Toluene	18-Feb-13	0.26	1.0	44.10	---	---	ND	---	---	ND
	18-Jul-13	0.26	1.0	---	---	---	---	1.50	ND	ND
NC 2L = 600 µg/L (01/01/10)	6-May-14	0.26	1.0	---	---	---	---	---	nle	ND
	22-Oct-14	0.26	1.0	---	---	---	---	---	nle	ND
	21-May-15	0.26	1.0	---	---	---	---	---	nle	ND
	9-Dec-16	0.26	1.0	---	---	---	---	---	nle	ND
Trichloroethene	18-Feb-13	0.47	1.0	**3.6**	---	---	ND	---	---	ND
	18-Jul-13	0.47	1.0	---	---	---	---	**5.8**	ND	ND
NC 2L = 3 µg/L (01/01/10)	6-May-14	0.47	1.0	**6.0**	**4.3**	---	ND	ND	nle	ND
	22-Oct-14	0.47	1.0	**5.1**	**3.4**	ND	ND	ND	nle	ND
	21-May-15	0.47	1.0	**3.5**	2.1	ND	ND	ND	---	---
	9-Dec-15	0.47	1.0	2.9	1.1	ND	ND	ND	---	---
Trichlorofluoromethane	18-Feb-13	0.20	1.0	0.650 J	---	---	ND	---	---	ND
	18-Jul-13	0.20	1.0	---	---	---	---	0.890 J	ND	ND
NC 2L = 2,000 µg/L (01/01/10)	6-May-14	0.20	1.0	---	---	---	---	---	nle	ND
	22-Oct-14	0.20	1.0	---	---	---	---	---	nle	ND
	21-May-15	0.20	1.0	---	---	---	---	---	nle	ND
	9-Dec-16	0.20	1.0	---	---	---	---	---	nle	ND
Vinyl chloride	18-Feb-13	0.62	1.0	**1.2**	---	---	ND	---	---	ND
	18-Jul-13	0.62	1.0	---	---	---	---	ND	ND	ND
NC 2L = 0.03 µg/L (01/01/10)	6-May-14	0.62	1.0	**1.1**	ND	---	ND	ND	nle	ND
	22-Oct-14	0.62	1.0	0.87 J	ND	ND	ND	ND	nle	ND
	21-May-15	0.62	1.0	ND	ND	ND	ND	ND	---	---
	9-Dec-15	0.62	1.0	0.80 J	ND	ND	ND	ND	---	---
Xylene (Total)	18-Feb-13	0.66	2.0	295	---	---	ND	---	---	ND
	18-Jul-13	0.66	2.0	---	---	---	---	92.5	ND	ND
NC 2L = 500 µg/L (01/01/10)	6-May-14	0.66	2.0	---	---	---	---	---	nle	ND
	22-Oct-14	0.66	2.0	---	---	---	---	---	nle	ND
	21-May-15	0.66	2.0	---	ND	ND	ND	ND	---	---
	9-Dec-16	0.66	2.0	---	ND	ND	ND	ND	---	---
Methane	18-Feb-13	0.66	2.0	---	---	---	---	---	---	---
(Dissolved Methane)	18-Jul-13	0.66	2.0	---	---	---	---	---	---	---
	6-May-14	0.66	2.0	348	9940	---	ND	ND	nle	---
	22-Oct-14	3.30	6.6	8450	13000	ND	ND	ND	nle	ND
	21-May-15	0.63	10.0	173	4680	2.0 J	1.5 J	1.7 J	---	---
	9-Dec-15	0.63	10.0	3780	8550	3.0 J	2.5 J	4.8 J	---	---

Notes:

All concentrations in micrograms per liter (µg/L) = parts per billion.
DL = Laboratory Detection Limit.
RL = SWSL = Solid Waste Section Reporting Limit.
NC 2L = Groundwater Standard from 15A NCAC 2L.0202.
Italics = Constituent of Concern (COC).
nle = No longer exists (MW-34 was accidentaly destroyed during construciton activties).
--- = Not reported or Not monitored
MW-36 was converted from PZ-36.

ND = Not Detected above the DL.
J = Estimated value - Concentration is less than the SWSL but greater than the DL.
B = Blank-Qualified (Concentration suspected to reflect laboratory or field contamination).
Values above the NC 2L Standard are **bold**

Appendix F

Historical Detected Surface Water Constituents

APPENDIX F:
HISTORICAL DETECTED SURFACE WATER CONSTITUENTS

Analyte	Sample Collection Date	DL	RL	SMP-5		SMP-6		SMP-7		Blanks	
Inorganic Compounds											
Antimony	6-Nov-08	2.6	6.0	ND		**8.4**		---		ND	
	3-Jun-09	2.6	6.0	ND		ND		---		ND	
	18-Nov-09	2.6	6.0	ND		ND		---		ND	
NC 2B = NE (05/01/07)	15-Jun-10	2.6	6.0	ND		ND		---		ND	
	1-Dec-10	2.6	6.0	ND		ND		---		ND	
	1-Jun-11	2.6	6.0	ND		ND		---		ND	
	20-Dec-11	5.0	6.0	ND		ND		---		ND	
	30-May-12	5.0	6.0	ND		ND		---		ND	
	5-Dec-12	5.0	6.0	ND		ND		---		ND	
	12-Jun-13	5.0	6.0	ND		ND		---		ND	
	28-Oct-13	5.0	6.0	ND		ND		---		ND	
	6-May-14	5.0	6.0	ND		ND		---		ND	
	22-Oct-14	5.0	6.0	---		ND		ND		ND	
	21-May-15	3.8	6.0	ND		ND		ND		ND	
	9-Dec-15	3.8	6.0	ND		ND		ND		ND	
Arsenic	6-Nov-08	2.7	10.0	2.9	B	4.5	B	---		4.1	J
	3-Jun-09	2.7	10.0	ND		4.5	J	---		ND	
	18-Nov-09	2.7	10.0	ND		ND		---		ND	
NC 2B = 10 µg/L (05/01/07)	15-Jun-10	2.7	10.0	ND		ND		---		ND	
	1-Dec-10	2.7	10.0	ND		ND		---		ND	
	1-Jun-11	2.7	10.0	ND		ND		---		ND	
	20-Dec-11	5.0	10.0	ND		ND		---		ND	
	30-May-12	5.0	10.0	ND		ND		---		ND	
	5-Dec-12	5.0	10.0	ND		ND		---		ND	
	12-Jun-13	5.0	10.0	ND		ND		---		ND	
	28-Oct-13	5.0	10.0	ND		ND		---		ND	
	6-May-14	5.0	10.0	ND		ND		---		ND	
	22-Oct-14	5.0	10.0	---		ND		ND		ND	
	21-May-15	2.5	10.0	ND		ND		ND		ND	
	9-Dec-15	2.5	10.0	ND		ND		ND		ND	
Barium	30-May-07	---	100	81.3	J	23.8	J	---		0.2	J
	29-Nov-07	---	100	116		27.5	J	---		0.50	J
	29-May-08	0.2	100	71.9	J	19.6	J	---		ND	
	6-Nov-08	0.20	100	82.5	J	40.2	B	---		9.6	J
	3-Jun-09	0.20	100	104		36.2	B	---		15.9	J
	18-Nov-09	0.20	100	49.9	B	15.7	B	---		20.1	J
NC 2B = 1,000 µg/L (05/01/07)	15-Jun-10	0.20	100	47.6	J	20.7	J	---		0.77	J
	1-Dec-10	0.20	100	39.8	J	46.8	J	---		ND	
	1-Jun-11	0.20	100	51.6	J	19.9	J	---		ND	
	20-Dec-11	5.0	100	63.7	J	13.9	J	---		ND	
	30-May-12	5.0	100	16.9	J	22.0	J	---		ND	
	5-Dec-12	5.0	100	69.9	J	24.8	J	---		ND	
	12-Jun-13	5.0	100	54.9	B	40.0	B	---		13.6	J
	28-Oct-13	5.0	100	35.4	J	20.8	J	---		ND	
	6-May-14	5.0	100	37.0	J	17.8	J	---		ND	
	22-Oct-14	5.0	100	---		25.5	J	19.8	J	ND	
	21-May-15	2.5	100	53.0	J	14.6	J	21.6	J	ND	
	9-Dec-15	2.5	100	26.1	J	23.4	J	27.8	J	ND	

APPENDIX F:
HISTORICAL DETECTED SURFACE WATER CONSTITUENTS

Analyte	Sample Collection Date	DL	RL	SMP-5		SMP-6		SMP-7	Blanks	
Beryllium	14-Nov-02	---	2	2.0	B	2.2	B	---	2.1	
	14-May-03	---	2	ND		ND		---	ND	
	20-Nov-03	---	2	ND		ND		---	ND	
	6-May-04	---	2	ND		ND		---	ND	
	10-Nov-04	---	2	ND		ND		---	ND	
	5-May-05	---	2	ND		ND		---	ND	
	3-Nov-05	---	2	ND		ND		---	ND	
	25-May-06	---	2	ND		ND		---	ND	
	2-Nov-06	---	2	ND		ND		---	ND	
	30-May-07	---	1	ND		ND		---	ND	
	29-Nov-07	---	1	ND		ND		---	ND	
	29-May-08	0.10	1.0	ND		ND		---	ND	
	6-Nov-08	0.10	1.0	0.24	B	0.37	B	---	0.29	J
	3-Jun-09	0.10	1.0	0.64	J	0.21	J	---	ND	
	18-Nov-09	0.10	1.0	ND		ND		---	ND	
NC 2B = 6.5 µg/L (05/01/07)	15-Jun-10	0.10	1.0	ND		ND		---	ND	
	1-Dec-10	0.10	1.0	ND		ND		---	ND	
	1-Jun-11	0.10	1.0	ND		ND		---	ND	
	20-Dec-11	1.0	1.0	ND		ND		---	ND	
	30-May-12	1.0	1.0	ND		ND		---	ND	
	5-Dec-12	1.0	1.0	ND		ND		---	ND	
	12-Jun-13	1.0	1.0	ND		ND		---	ND	
	28-Oct-13	1.0	1.0	ND		ND		---	ND	
	6-May-14	1.0	1.0	ND		ND		---	ND	
	22-Oct-14	1.0	1.0	---		ND		ND	ND	
	21-May-15	0.5	1.0	ND		ND		ND	ND	
	9-Dec-15	0.5	1.0	ND		ND		ND	ND	

APPENDIX F:
HISTORICAL DETECTED SURFACE WATER CONSTITUENTS

Analyte	Sample Collection Date	DL	RL	SMP-5		SMP-6		SMP-7		Blanks	
Cadmium	7-Nov-01	---	1	ND		1.0		---		ND	
	22-May-02	---	1	ND		1.7	B	---		1.3	
	14-Nov-02	---	1	ND		ND		---		ND	
	14-May-03	---	1	ND		ND		---		ND	
	20-Nov-03	---	1	ND		ND		---		ND	
	6-May-04	---	1	ND		ND		---		ND	
	10-Nov-04	---	1	ND		ND		---		ND	
	5-May-05	---	1	ND		ND		---		ND	
	3-Nov-05	---	1	ND		ND		---		ND	
	25-May-06	---	1	ND		ND		---		ND	
	2-Nov-06	---	1	ND		ND		---		ND	
	30-May-07	---	1	ND		ND		---		ND	
	29-Nov-07	---	1	ND		ND		---		ND	
	29-May-08	0.5	1.0	ND		ND		---		ND	
	6-Nov-08	0.50	1.0	ND		ND		---		ND	
	3-Jun-09	0.50	1.0	ND		ND		---		ND	
	18-Nov-09	0.50	1.0	ND		ND		---		ND	
NC 2B = 2 µg/L (05/01/07)	15-Jun-10	0.50	1.0	ND		ND		---		ND	
	1-Dec-10	0.50	1.0	ND		ND		---		ND	
	1-Jun-11	0.50	1.0	ND		ND		---		ND	
	20-Dec-11	1.0	1.0	ND		ND		---		ND	
	30-May-12	1.0	1.0	ND		ND		---		ND	
	5-Dec-12	1.0	1.0	ND		ND		---		ND	
	12-Jun-13	1.0	1.0	ND		ND		---		ND	
	28-Oct-13	1.0	1.0	ND		ND		---		ND	
	6-May-14	1.0	1.0	ND		ND		---		ND	
	22-Oct-14	1.0	1.0	---		ND		ND		ND	
	21-May-15	0.5	1.0	ND		ND		ND		ND	
	9-Dec-15	0.5	1.0	ND		ND		ND		ND	
Chromium	6-Nov-08	0.40	10.0	ND		0.47	J	---		ND	
	3-Jun-09	0.40	10.0	7.5	J	3.2	J	---		ND	
	18-Nov-09	0.40	10.0	ND		ND		---		ND	
NC 2B = 50 µg/L (05/01/07)	15-Jun-10	0.40	10.0	1.2	B	0.48	B	---		0.74	J
	1-Dec-10	0.40	10.0	0.68	B	5.1	J	---		0.51	J
	1-Jun-11	0.40	10.0	0.59	B	0.59	B	---		0.73	J
	20-Dec-11	5.0	10.0	ND		ND		---		ND	
	30-May-12	5.0	10.0	ND		ND		---		ND	
	5-Dec-12	5.0	10.0	ND		ND		---		ND	
	12-Jun-13	5.0	10.0	ND		ND		---		ND	
	28-Oct-13	5.0	10.0	ND		ND		---		ND	
	6-May-14	5.0	10.0	ND		ND		---		ND	
	22-Oct-14	5.0	10.0	---		ND		9.7	J	ND	
	21-May-15	2.5	10.0	ND		ND		ND		ND	
	9-Dec-15	2.5	10.0	ND		ND		ND		ND	

APPENDIX F:
HISTORICAL DETECTED SURFACE WATER CONSTITUENTS

Analyte	Sample Collection Date	DL	RL	SMP-5		SMP-6		SMP-7	Blanks	
Cobalt	22-May-02	---	10	14.0		17.0		---	11.0	
	14-Nov-02	---	10	ND		ND		---	ND	
	14-May-03	---	10	ND		10.0		---	ND	
	20-Nov-03	---	10	14.0		ND		---	ND	
	6-May-04	---	10	ND		ND		---	ND	
	10-Nov-04	---	10	10.0		ND		---	ND	
	5-May-05	---	10	10.0		ND		---	ND	
	3-Nov-05	---	10	16.0		ND		---	ND	
	25-May-06	---	10	12		ND		---	ND	
	2-Nov-06	---	10	13.6		ND		---	ND	
	30-May-07	---	10	12.3		8.8	J	---	ND	
	29-Nov-07	---	10	19.0		2.1	J	---	ND	
	29-May-08	0.60	10.0	13.7		ND		---	ND	
	6-Nov-08	0.60	10.0	12.6		ND		---	0.65	J
	3-Jun-09	0.60	10.0	11.9	B	6.6	B	---	7.6	J
	18-Nov-09	0.60	10.0	3.6	J	4.6	J	---	ND	
NC 2B = NE (05/01/07)	15-Jun-10	0.60	10.0	6.4	J	22.3		---	ND	
	1-Dec-10	0.60	10.0	0.76	J	4.1	J	---	ND	
	1-Jun-11	0.60	10.0	2.0	J	1.7	J	---	ND	
	20-Dec-11	5.0	10.0	ND		ND		---	ND	
	30-May-12	5.0	10.0	ND		ND		---	ND	
	5-Dec-12	5.0	10.0	29.0		7.7	J	---	ND	
	12-Jun-13	5.0	10.0	ND		9.1	J	---	ND	
	28-Oct-13	5.0	10.0	11.5		12.4		---	ND	
	6-May-14	5.0	10.0	ND		ND		---	ND	
	22-Oct-14	5.0	10.0	---		ND		ND	ND	
	21-May-15	2.5	10.0	6.3	J	ND		ND	ND	
	9-Dec-15	2.5	10.0	ND		ND		ND	ND	
Copper	29-May-08	0.30	10.0	ND		1.3	B	---	0.37	J
	6-Nov-08	4.0	10.0	0.45	B	3.4	J	---	0.65	J
	3-Jun-09	0.30	10.0	6.6	J	2.1	J	---	ND	
	18-Nov-09	0.30	10.0	ND		ND		---	ND	
NC 2B = 7 µg/L (05/01/07)	15-Jun-10	0.30	10.0	0.56	B	ND		---	0.77	J
	1-Dec-10	0.30	10.0	3.6	J	5.9	J	---	ND	
	1-Jun-11	0.30	10.0	1.8	J	0.35	J	---	ND	
	20-Dec-11	5.0	10.0	ND		ND		---	ND	
	30-May-12	5.0	10.0	ND		ND		---	ND	
	5-Dec-12	5.0	10.0	ND		ND		---	ND	
	12-Jun-13	5.0	10.0	5.2	B	ND		---	9.8	J
	28-Oct-13	5.0	10.0	ND		ND		---	ND	
	6-May-14	5.0	10.0	ND		ND		---	ND	
	22-Oct-14	5.0	10.0	---		ND		ND	ND	
	21-May-15	2.5	10.0	ND		ND		ND	ND	
	9-Dec-15	2.5	10.0	ND		ND		ND	ND	

APPENDIX F:
HISTORICAL DETECTED SURFACE WATER CONSTITUENTS

Analyte	Sample Collection Date	DL	RL	SMP-5		SMP-6		SMP-7	Blanks	
Lead	3-Jun-09	4.0	10.0	7.3	J	ND		---	ND	
	18-Nov-09	4.0	10.0	ND		ND		---	ND	
NC 2B = 25 µg/L (05/01/07)	15-Jun-10	4.0	10.0	ND		ND		---	ND	
	1-Dec-10	4.0	10.0	ND		4.6	J	---	ND	
	1-Jun-11	4.0	10.0	ND		ND		---	ND	
	20-Dec-11	5.0	10.0	ND		ND		---	ND	
	30-May-12	5.0	10.0	ND		ND		---	ND	
	5-Dec-12	5.0	10.0	ND		ND		---	ND	
	12-Jun-13	5.0	10.0	ND		ND		---	ND	
	28-Oct-13	5.0	10.0	ND		ND		---	ND	
	6-May-14	5.0	10.0	ND		ND		---	ND	
	22-Oct-14	5.0	10.0	---		ND		ND	ND	
	21-May-15	2.5	10.0	ND		ND		ND	ND	
	9-Dec-15	2.5	10.0	ND		ND		ND	ND	
Nickel	3-Jun-09	1.7	50.0	5.5	B	ND		---	1.7	J
	18-Nov-09	1.7	50.0	ND		ND		---	ND	
NC 2B = 25 µg/L (05/01/07)	15-Jun-10	1.7	50.0	ND		ND		---	ND	
	1-Dec-10	1.7	50.0	2.8	J	2.8	J	---	ND	
	1-Jun-11	1.7	50.0	ND		ND		---	2.3	J
	20-Dec-11	5.0	50.0	ND		ND		---	ND	
	30-May-12	5.0	50.0	ND		ND		---	ND	
	5-Dec-12	5.0	50.0	ND		ND		---	ND	
	12-Jun-13	5.0	50.0	ND		ND		---	ND	
	28-Oct-13	5.0	50.0	ND		ND		---	ND	
	6-May-14	5.0	50.0	ND		ND		---	ND	
	22-Oct-14	5.0	50.0	---		ND		ND	ND	
	21-May-15	2.5	50.0	ND		ND		ND	ND	
	9-Dec-15	2.5	50.0	ND		ND		ND	ND	
Selenium	6-Nov-08	3.8	10	ND		**10.9**		---	ND	
	3-Jun-09	3.8	10.0	ND		ND		---	ND	
	18-Nov-09	3.8	10.0	ND		ND		---	ND	
NC 2B = 5 µg/L (05/01/07)	15-Jun-10	3.8	10.0	ND		ND		---	ND	
	1-Dec-10	3.8	10.0	ND		ND		---	ND	
	1-Jun-11	3.8	10.0	ND		ND		---	ND	
	20-Dec-11	10.0	10.0	ND		ND		---	ND	
	30-May-12	10.0	10.0	ND		ND		---	ND	
	5-Dec-12	10.0	10.0	ND		ND		---	ND	
	12-Jun-13	10.0	10.0	ND		ND		---	ND	
	28-Oct-13	10.0	10.0	ND		ND		---	ND	
	6-May-14	10.0	10.0	ND		ND		---	ND	
	22-Oct-14	10.0	10.0	---		ND		ND	ND	
	21-May-15	5.0	10.0	ND		ND		ND	ND	
	9-Dec-15	5.0	10.0	ND		ND		ND	ND	

APPENDIX F:
HISTORICAL DETECTED SURFACE WATER CONSTITUENTS

Analyte	Sample Collection Date	DL	RL	SMP-5		SMP-6		SMP-7	Blanks	
Silver	22-May-02	---	10	16.0	B	15.0	B	---	15.0	
	14-Nov-02	---	10	ND		ND		---	ND	
	14-May-03	---	10	ND		ND		---	ND	
	20-Nov-03	---	10	ND		ND		---	ND	
	6-May-04	---	10	ND		ND		---	ND	
	10-Nov-04	---	10	ND		ND		---	ND	
	5-May-05	---	10	ND		ND		---	ND	
	3-Nov-05	---	10	ND		ND		---	ND	
	25-May-06	---	10	ND		ND		---	ND	
	2-Nov-06	---	10	ND		ND		---	ND	
	30-May-07	---	10	ND		ND		---	ND	
	29-Nov-07	---	10	ND		ND		---	ND	
	29-May-08	0.10	10.0	0.29	J	0.13	J	---	ND	
	6-Nov-08	0.10	10.0	0.72	B	0.38	B	---	0.23	J
	3-Jun-09	0.10	10.0	0.18	B	ND		---	0.31	J
	18-Nov-09	0.10	10.0	0.27	B	0.23	B	---	0.23	J
NC 2B = 0.06 µg/L (05/01/07)	15-Jun-10	0.10	10.0	ND		ND		---	ND	
	1-Dec-10	0.10	10.0	ND		ND		---	ND	
	1-Jun-11	0.10	10.0	ND		0.22	J	---	ND	
	20-Dec-11	5.0	10.0	ND		ND		---	ND	
	30-May-12	5.0	10.0	ND		ND		---	ND	
	5-Dec-12	5.0	10.0	ND		ND		---	ND	
	12-Jun-13	5.0	10.0	ND		ND		---	ND	
	28-Oct-13	5.0	10.0	ND		ND		---	ND	
	6-May-14	5.0	10.0	ND		ND		---	ND	
	22-Oct-14	5.0	10.0	---		ND		ND	ND	
	21-May-15	2.5	10.0	ND		ND		ND	ND	
	9-Dec-15	2.5	10.0	ND		ND		ND	ND	
Thallium	5-May-05	---	10	22.0		11.0		---	ND	
	3-Nov-05	---	10	20.0		ND		---	ND	
	25-May-06	---	10	ND		ND		---	ND	
	2-Nov-06	---	10	ND		ND		---	ND	
	30-May-07	---	5.5	0.053	J	ND		---	ND	
	29-Nov-07	---	5.5	0.055	J	ND		---	ND	
	29-May-08	3.0	5.5	ND		ND		---	ND	
	6-Nov-08	3.0	5.5	ND		ND		---	ND	
	3-Jun-09	3.0	5.5	ND		ND		---	ND	
	18-Nov-09	3.0	5.5	ND		ND		---	4.2	J
NC 2B = NE (05/01/07)	15-Jun-10	3.0	5.5	3.2	J	ND		---	ND	
	1-Dec-10	3.0	5.5	ND		ND		---	4.0	J
	1-Jun-11	3.0	5.5	ND		ND		---	ND	
	20-Dec-11	5.4	5.5	ND		ND		---	ND	
	30-May-12	5.4	5.5	ND		ND		---	ND	
	5-Dec-12	5.4	5.5	ND		ND		---	ND	
	12-Jun-13	5.4	5.5	ND		ND		---	ND	
	28-Oct-13	5.4	5.5	ND		ND		---	ND	
	6-May-14	5.4	5.5	ND		ND		---	ND	
	22-Oct-14	5.4	5.5	---		ND		ND	ND	
	21-May-15	5.0	5.5	ND		ND		ND	ND	
	9-Dec-15	5.0	5.5	ND		ND		ND	ND	

APPENDIX F:
HISTORICAL DETECTED SURFACE WATER CONSTITUENTS

Analyte	Sample Collection Date	DL	RL	SMP-5		SMP-6		SMP-7		Blanks	
Vanadium	6-Nov-08	0.20	25.0	0.90	B	8.9	B	---		2.1	J
	3-Jun-09	0.20	25.0	17.4	J	7.5	J	---		1.0	J
	18-Nov-09	0.20	25.0	0.26	B	0.30	B	---		0.56	J
NC 2B = NE (05/01/07)	15-Jun-10	0.20	25.0	1.5	B	1.0	B	---		0.98	J
	1-Dec-10	0.20	25.0	1.1	J	13.7	J	---		ND	
	1-Jun-11	0.20	25.0	1.1	J	0.74	J	---		ND	
	20-Dec-11	5.0	25.0	ND		ND		---		ND	
	30-May-12	5.0	25.0	ND		ND		---		ND	
	5-Dec-12	5.0	25.0	ND		ND		---		ND	
	12-Jun-13	5.0	25.0	7.6	J	ND		---		ND	
	28-Oct-13	5.0	25.0	ND		ND		---		ND	
	6-May-14	5.0	25.0	ND		ND		---		ND	
	22-Oct-14	5.0	25.0	---		ND		ND		ND	
	21-May-15	2.5	25.0	7.5	J	ND		4.1	J	ND	
	9-Dec-15	2.5	25.0	ND		ND		3.9	J	ND	
Zinc	30-May-07	---	10	1.8	B	ND		---		1.6	J
	29-Nov-07	---	10	9.6	B	ND		---		3.1	J
	29-May-08	0.40	10.0	6.0	B	ND		---		3.0	J
	6-Nov-08	0.40	10.0	0.82	B	1.4	B	---		2.7	J
	3-Jun-09	0.40	10.0	33.7	B	9.6	B	---		82.0	
	18-Nov-09	0.40	10.0	2.2	B	2.5	B	---		3.1	J
NC 2B = 50 µg/L (05/01/07)	15-Jun-10	0.40	10.0	ND		ND		---		ND	
	1-Dec-10	0.40	10.0	8.8	J	6.6	J	---		0.62	J
	1-Jun-11	0.40	10.0	15.1	B	21.5	B	---		13.7	
	20-Dec-11	10.0	10.0	ND		ND		---		ND	
	30-May-12	10.0	10.0	ND		ND		---		ND	
	5-Dec-12	10.0	10.0	ND		ND		---		ND	
	12-Jun-13	10.0	10.0	ND		ND		---		76.5	
	28-Oct-13	10.0	10.0	ND		ND		---		ND	
	6-May-14	10.0	10.0	ND		ND		---		ND	
	22-Oct-14	10.0	10.0	---		ND		ND		ND	
	21-May-15	5.0	10.0	ND		5.8	J	ND		ND	
	9-Dec-15	5.0	10.0	ND		ND		ND		ND	
Organic Compounds											
Acetone	29-Nov-07	---	100	3.6	B	ND		---		5.1	J
	29-May-08	20	100	ND		ND		---		ND	
	6-Nov-08	20	100	ND		ND		---		ND	
	3-Jun-09	2.2	100	5.7	J	ND		---		ND	
	18-Nov-09	2.2	100	ND		ND		---		ND	
NC 2B = NE (05/01/07)	15-Jun-10	2.2	100	2.2	B	2.3	B	---		7.2	J
	1-Dec-10	2.2	100	ND		ND		---		3.7	J
	1-Jun-11	2.2	100	5.4	B	2.9	B	---		3.9	J
	20-Dec-11	2.2	100	ND		ND		---		ND	
	30-May-12	2.2	100	ND		ND		---		ND	
	5-Dec-12	10.0	100	ND		ND		---		ND	
	12-Jun-13	10.0	100	ND		ND		---		ND	
	28-Oct-13	10.0	100	ND		ND		---		ND	
	6-May-14	10.0	100	ND		ND		---		ND	
	22-Oct-14	10.0	100	---		ND		ND		ND	
	21-May-15	10.0	100	ND		ND		ND		ND	
	9-Dec-15	10.0	100	ND		ND		ND		ND	

APPENDIX F:
HISTORICAL DETECTED SURFACE WATER CONSTITUENTS

Analyte	Sample Collection Date	DL	RL	SMP-5	SMP-6		SMP-7	Blanks
Chloromethane	15-Jun-10	0.11	1.0	ND	0.11	J	---	ND
NC 2B = NE (05/01/07)	1-Dec-10	0.11	1.0	ND	ND		---	ND
	1-Jun-11	0.11	1.0	ND	ND		---	ND
	20-Dec-11	0.11	1.0	ND	ND		---	ND
	30-May-12	0.11	1.0	ND	ND		---	ND
	5-Dec-12	0.11	1.0	ND	ND		---	ND
	12-Jun-13	0.11	1.0	ND	ND		---	ND
	28-Oct-13	0.11	1.0	ND	ND		---	ND
	6-May-14	0.11	1.0	ND	ND		---	ND
	22-Oct-14	0.11	1.0	---	ND		ND	ND
	21-May-15	0.11	1.0	ND	ND		ND	ND
	9-Dec-15	0.11	1.0	ND	ND		ND	ND
1,1-Dichloroethane	1-Jun-11	0.32	5.0	ND	0.41	J	---	ND
NC 2B = NE (05/01/07)	20-Dec-11	0.32	5.0	ND	ND		---	ND
	30-May-12	0.32	5.0	ND	ND		---	ND
	5-Dec-12	0.32	5.0	ND	1.6	J	---	ND
	12-Jun-13	0.32	5.0	ND	ND		---	ND
	28-Oct-13	0.32	5.0	ND	0.96	J	---	ND
	6-May-14	0.32	5.0	ND	ND		---	ND
	22-Oct-14	0.32	5.0	---	1.5	J	ND	ND
	21-May-15	0.32	5.0	ND	ND		ND	ND
	9-Dec-15	0.32	5.0	ND	ND		ND	ND
cis-1,2-Dichloroethene	22-Oct-14	0.2	5.0	---	0.20	J	ND	ND
	21-May-15	0.2	5.0	ND	ND		ND	ND
	9-Dec-15	0.2	5.0	ND	ND		ND	ND
NC 2B = NE (05/15/13)								

Notes:

All concentrations in micrograms per liter (µg/L) = parts per billion.

RL = Reporting Limit (Lab. Reporting Limit for September 1994 - May 1999; NC PQL for October 1999 - December 2006; and SWSL for December 2006 - present).

DL = Laboratory Detection Limit.

NI = Monitoring well not yet installed.

AB = Monitoring well abandoned.

--- = Not sampled for this parameter or Not reported

ND = Not Detected at or above the RL (prior to Dec. 2006) or the DL (after Dec. 2006).

J = Estimated value - concentration is less than the RL but greater than the DL.

B = Blank-Qualified (Concentration suspected to reflect laboratory or field contamination based on similar concentrations detected in field, trip, or method blanks).

D = Sample was diluted when analyzed.

NC 2B = Groundwater Standard from 15A NCAC 2B.

NE = No NC 2B established.

Values above the NC 2B Standard are **bold**.

Surface waters classified as WS-IV (water supply IV, highly developed), B (primary recreation, fresh water), and CA (critical area).