

**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: Hannu Kemppinen P.G.

Phone: (336) 323-0092

E-mail: [hkemppin@joyceengineering.com](mailto:hkemppin@joyceengineering.com)

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Germantown Landfill Wilkes County	Mailing Address: 9219 Elkin Highway Roaring River, NC 28669	97-01	.0500	April 9, 2015

**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
  Methane gas monitoring data  
 Groundwater monitoring data from private water supply wells
  Corrective action data (specify) \_\_\_\_\_  
 Leachate monitoring data  
 Other(specify) \_\_\_\_\_  
 Surface water monitoring data

**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.

Hannu Kemppinen P.G.

Senior Project Consultant

(336) 323-0092

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Signature

*Hannu Kemppinen*

Date

8.28.2015

Affix NC Licensed Professional Geologist Seal

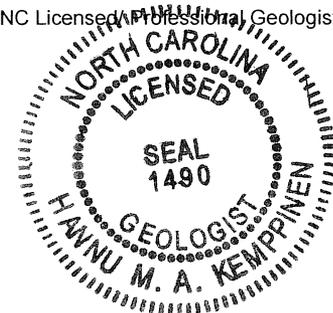
2211 West Meadowview Rd. Suite 101, Greensboro, NC 27407

Facility Representative Address

C-0782

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009





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August 28, 2015

Mr. Ervin Lane  
Compliance Hydrogeologist  
Division of Waste Management/Solid Waste Section  
1646 Mail Service Center  
Raleigh, NC 27699-1646

**RE: First Semiannual Water Quality Monitoring Reports of 2015  
Wilkes County Landfills: Germantown Landfill, Permit No. 97-01  
JOYCE Project No. 356.1501.12, Task No. 02**

Dear Ervin:

On behalf of Wilkes County, Joyce Engineering is submitting the *First Semiannual Water Quality Monitoring Report of 2015* for the Wilkes County Germantown Landfill, Permit No. 97-01. The attached report contains electronic versions of the complete report and all appendices for the April 2015 sampling event. Also attached is the North Carolina Environmental Monitoring Reporting Form for the April 2015 monitoring event.

If you wish to have a hard copy of the report, drawings, or appendices, we will be happy to provide it upon your request. Please feel free to contact me or Alex Everhart at (336) 323-0092 if you have any questions regarding this report.

Sincerely,  
**JOYCE ENGINEERING**

A handwritten signature in blue ink that reads "Hannu Kempainen".

Hannu Kempainen P.G.  
Senior Project Consultant

Enclosures

C: Kent Brandon - Wilkes County, Solid Waste Director (2 copies)

***PREPARED FOR:***

WILKES COUNTY DEPARTMENT OF SOLID WASTE  
9219 ELKIN HIGHWAY  
ROARING RIVER, NORTH CAROLINA 27298



**GERMANTOWN LANDFILL  
PERMIT NO. 97-01**

**FIRST SEMIANNUAL WATER QUALITY MONITORING  
REPORT OF 2015**

**AUGUST 2015**

***PREPARED BY:***



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JOYCE PROJECT No. 00356.1501.12

**First Semiannual Water Quality Monitoring Report of 2015  
 Germantown Landfill  
 Wilkes County, North Carolina**

**TABLE OF CONTENTS**

**1.0 INTRODUCTION.....1**

**1.1 Site Information .....1**

**1.2 Site Geology .....1**

**1.3 Regulatory Status.....1**

**2.0 FACILITY MONITORING PROGRAM .....1**

**2.1 Groundwater Monitoring Program .....1**

**2.2 Surface Water Monitoring Program.....2**

**3.0 FIRST SEMIANNUAL SAMPLING EVENT OF 2015 .....2**

**3.1 Field Work and Visual Inspection.....2**

**3.2 Laboratory Analysis and JOYCE Quality Control .....3**

**4.0 DATA ANALYSIS .....4**

**4.1 Groundwater Data Analysis and Comparisons to Standards .....4**

**4.2 Surface Water Data Analysis and Comparisons to Standards.....5**

**5.0 CONCLUSION .....5**

**6.0 REFERENCES.....5**

**Tables**

Table 1	Summary of Historical Detected Constituents
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**Figure**

Figure No. 1	Site Location Map
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**Drawing**

Drawing No. 1	Groundwater Surface Map
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**Appendices**

Appendix 1	Laboratory Analytical Reports and Field Data Logs
Appendix 2	Summary of Detections, Exceedances, and Field Parameters
Appendix 3	Horizontal Groundwater Flow Velocities

## 1.0 INTRODUCTION

### 1.1 Site Information

The Germantown Landfill is a closed, unlined municipal solid waste (MSW) landfill owned by Wilkes County. The landfill property is located near the town of Wilkesboro, North Carolina. The property boundary is indicated on an excerpt from the 7.5 minutes USGS topographic map for Moravian Falls, North Carolina (Figure No. 1.).

The closed landfill currently houses the Wilkes County Fire Marshal and training grounds. The area surrounding the landfill is primarily residential/agricultural and contains open fields and woodlands.

### 1.2 Site Geology

The Germantown Landfill is located at the boundary of the Inner Piedmont Belt and Blue Ridge Belt in the Brevard Fault Zone. In the vicinity of the site, the Brevard Zone is a five-mile wide, east-northeast trending fault zone with a complex structural and metamorphic history. Finely interlayered gneiss and schist within the zone are amphibolite facies, with peak metamorphism as high as the kyanite zone for pelitic assemblages.

### 1.3 Regulatory Status

Wilkes County is currently monitoring groundwater at the Germantown Landfill in accordance with criteria set forth in Rule .0500 of the North Carolina Solid Waste Management Rules (NCSWMR) for municipal solid waste landfills (MSWLF) closed prior to October 9, 1993.

## 2.0 FACILITY MONITORING PROGRAM

### 2.1 Groundwater Monitoring Program

The current groundwater compliance monitoring network includes five monitoring wells, including one upgradient well and four downgradient wells. These wells are summarized below, along with their current monitoring program status.

Monitoring Well	Classification	Monitoring Program	Total Depth from TOC (ft)
MW-1	Background	Detection (.0500)	89.69
MW-2	Compliance	Detection (.0500)	81.54
MW-3	Compliance	Detection (.0500)	64.00
MW-4	Compliance	Detection (.0500)	28.21
MW-5	Compliance	Detection (.0500)	23.47

TOC = Top of casing.

Groundwater samples are collected semiannually during the second and fourth quarters. Samples are analyzed for all constituents listed in the NCSWMR Appendix I during the first and second semiannual events.

## 2.2 Surface Water Monitoring Program

Surface water at the Germantown Landfill is monitored semiannually in accordance with NCSWMR §0602 and in conjunction with the groundwater sampling events. Samples are collected from three surface water monitoring points (Upstream, Downstream and Outfall #1).

Surface water samples are collected and analyzed for the NCSWMR Appendix I list of constituents during both semiannual monitoring events. The results are compared to the 15A NCAC 2B (NC 2B) Surface Water Standards in a value-to-value comparison. These surface water monitoring points are summarized below, along with their current monitoring program status.

Surface Point	Classification	Monitoring Program
<i>Upstream</i>	Up Stream/Compliance	Surface Water
<i>Downstream</i>	Compliance	Surface Water
<i>Outfall #1</i>	Compliance	Surface Water

## 3.0 FIRST SEMIANNUAL SAMPLING EVENT OF 2015

### 3.1 Field Work and Visual Inspection

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 Germantown Landfill. This inspection program involves field personnel making the following observations:

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

On April 9, 2015, Joyce Engineering (JOYCE) personnel purged and sampled facility monitoring wells MW-1, MW-2, MW-3, MW-4 and MW-5. Prior to purging, the depth to static water level was measured for all monitoring wells with an electronic water level indicator, accurate to 0.01 foot.

Monitoring wells were purged and sampled using either disposable bailers or a 12 volt plastic pump. Measurements of temperature, pH, specific conductivity, and turbidity were recorded in

the site specific log book prior to purging, after each purge volume, and during sampling. Prior to sampling, laboratory-supplied containers were prepared 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 collected directly from the disposable bailers or 12 volt pump in 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 on ice. Field data logs are provided in the Appendix to this report.

Surface water samples were collected directly from stream flow by lowering the prepared sample containers into the stream flow with the opening facing into the current. Care was taken not to overfill the sample containers (which could lead to preservative loss) and to avoid sampling-induced turbidity. At the time of sampling, surface water was also measured for temperature, pH, specific conductivity, and turbidity. Outfall #1 was not flowing and was not sampled. After sample collection, the samples were placed in a laboratory provided cooler and chilled on ice. Field data logs are provided in the Appendix.

### **3.2 Laboratory Analysis and JOYCE Quality Control**

The April 2015 groundwater and surface water samples were submitted to Pace Analytical Services, Inc. of Huntersville, North Carolina under chain-of-custody control for analysis. As presented earlier, the groundwater and surface water samples were analyzed for the NCSWMR Appendix I constituents. JOYCE requested a Level II data report for the final laboratory report. The samples were received by the laboratory on April 10, 2015, in good condition, properly preserved, and within analysis hold times.

In addition to samples collected for compliance monitoring at the Germantown Landfill, a Field Blank was collected by JOYCE personnel as part of the April 2015 sampling event. Also, a Trip Blank was prepared by the laboratory to accompany the volatile sampling containers during shipment to and from the laboratory. The April 2015 Field Blank was analyzed for the NCSWMR Appendix I constituents while the April 2015 Trip Blank was analyzed for the NCSWMR Appendix I volatile organics only.

Upon receipt of the laboratory data package, the data was reviewed by JOYCE personnel 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 above the groundwater and surface water standards; and
- Detections that are above historical levels.

#### 4.0 DATA ANALYSIS

##### 4.1 Groundwater Data Analysis and Comparisons to Standards

Results from the April 2015 sampling event were received April 22, 2015, from Pace Analytical Services, Inc. and are found in the Appendix. Analytical results from monitoring wells were compared directly to the NC 2L Groundwater Standards (NC 2L) or Groundwater Protection Standards (GWPS).

The following inorganic and organic constituents were detected at quantified concentrations in groundwater during the April 2015 sampling event. All concentrations are reported in micrograms per liter ( $\mu\text{g/L}$ ). Concentrations with a “J” are considered to be estimated. Concentrations with a “B” are attributed to lab or field contamination. **Bold** concentrations were detected above the NC 2L or GWPS in downgradient wells.

Constituent	NC2L/ (GWPS)	Background	Downgradient					Blanks
		MW-1	MW-2	MW-3	MW-4	MW-5		
<i>Barium</i>	700	128	8.0 J	8.6 J	70.6 J	327	ND	
<i>Cobalt</i>	(1)	ND	ND	ND	9.8 J	<b>13.7</b>	ND	
<i>Copper</i>	1,000	ND	4.0 B	ND	17.6	6.0 B	3.2 J	
<i>Zinc</i>	1,000	5.9 J	7.4 J	ND	6.1 J	5.5 J	ND	
<i>Chlorobenzene</i>	50	0.72 J	ND	ND	1.9 J	6.7	ND	
<i>1,4-Dichlorobenzene</i>	6	0.36 J	ND	ND	1.1	3.0	ND	

ND= Not Detected

In general, the organic and inorganic results are consistent with historical data. Historical groundwater data can be found in Table 1.

##### 4.2 Surface Water Data Analysis and Comparisons to Standards

Zinc was detected above the SWSL in the downstream sample; however, it was below the NC 2B. No other inorganic and organic constituents were detected at quantified concentrations in

surface water during the April 2015 sampling event. In general, the results are consistent with historical data. Historical surface water data can be found in Table 1.

## 5.0 CONCLUSION

Based on historical data, inorganic and organic constituents detected above the NC SWSL in groundwater and surface water samples collected during the April 2015 sampling event are generally consistent with previous events. The Germantown Landfill will remain in Detection Monitoring under Rule .0500 of the NCSWMR and the next semiannual sampling event is tentatively scheduled for the October 2015.

## 6.0 REFERENCES

Brown, Philip M., Chief Geologist, 1985, *Geologic Map of North Carolina*, The North Carolina Geologic Survey, scale 1:500,000.

Fetter, C.W., 2001, *Applied Hydrogeology*, Fourth Edition: Prentice-Hall, Inc..

Johnson, A.I., 1967, *Specific Yield - Compilation of Specific Yields For Various Materials*: U.S. Geological Survey Water Supply Paper 1662-D.

North Carolina Department of Environment and Natural Resources, 1990-2011, *Solid Waste Management Regulations*.

USEPA, 1986, *RCRA Ground Water Monitoring Technical Enforcement Guidance Document (TEGD)*.

USEPA, 1992, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance*, Chapter 2, July.

## **Tables**

**TABLE 1**

**Summary of Historically Detected Constituents**

Analyte	Sample		DL	QL	MW-1	MW-2	MW-3	MW-4	MW-5	Upstream	Downstream	Outfall #1	Outfall #2	Blanks					
	Collection Date																		
<b>INORGANICS</b>																			
Antimony	28-Nov-07	1.2	6.0	ND	ND	3.1	J	ND (2.8 J)	ND	ND	ND	1.7	J	---	ND				
GWPS = 1.4 µg/L (10/23/07)	21-Apr-08	1.2	6.0	1.2	B	ND		ND (ND)	ND	4.1	B	ND	1.9	B	---	1.3			
NC 2B = NE (05/01/07)	22-Dec-08	1.2	6.0	ND		1.3	J	3.7 (ND)	J	ND	ND	ND	ND	---	ND				
	23-Jun-09	1.2	6.0	5.9	J	2.3 (5.3 J)	J	ND	ND	2.5	J	2.9	J	3.6	J	---	ND		
	15-Dec-09	1.2	6.0	ND		2.3	B	3.9	B	ND (3.4 B)	1.8	B	ND	4.6	B	---	3.5		
	28-Jun-10	1.2	6.0	ND		2.0	B	2.5	B	ND	1.2 (ND)	B	ND	ND	---	2.2			
GWPS = 1 µg/L (8/1/10)	02-Nov-10	1.2	6.0	ND		ND		2.4 (ND)	J	3.5	J	3.1	J	ND	---	ND			
	12-Apr-11	2.6	6.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	18-Oct-11	5.0	6.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	10-Apr-12	5.0	6.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	15-Oct-12	5.0	6.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	16-Apr-13	5.0	6.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	08-Oct-13	5.0	6.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	29-Apr-14	5.0	6.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	14-Oct-14	5.0	6.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	09-Apr-15	3.8	6.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
Arsenic	19-Jun-07	5.5	10.0	ND		ND		8.2	J	ND	ND (ND)	7.7	J	ND	ND	---	ND		
NC 2L = 50 µg/L (10/23/07)	28-Nov-07	5.5	10.0	ND		ND		ND	ND	ND (ND)	ND	ND	ND	ND	---	ND			
NC 2B = 50 µg/L (05/01/07)	21-Apr-08	5.5	10.0	ND		ND		ND	ND	ND (ND)	ND	ND	ND	ND	---	ND			
	22-Dec-08	5.5	10.0	ND		ND		ND (ND)	ND	ND	ND	ND	ND	ND	---	ND			
	23-Jun-09	5.5	10.0	ND		6.3 (ND)	J	ND	ND	ND	ND	ND	ND	ND	---	ND			
	15-Dec-09	5.5	10.0	ND		ND		ND	ND	ND (ND)	ND	ND	ND	ND	---	ND			
NC 2L = 10 µg/L (01/01/10)	28-Jun-10	5.5	10.0	ND		6.1	J	ND	ND	ND	ND (ND)	ND	ND	ND	---	ND			
	02-Nov-10	5.5	10.0	ND		ND		ND (ND)	ND	ND	ND	ND	ND	ND	---	ND			
	12-Apr-11	2.7	10.0	ND		ND		ND	ND	6.9	J	ND	ND	ND	---	ND			
	18-Oct-11	5.0	10.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	10-Apr-12	5.0	10.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	15-Oct-12	5.0	10.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	16-Apr-13	5.0	10.0	ND		ND		ND	ND	7.8	J	ND	ND	ND	---	ND			
	08-Oct-13	5.0	10.0	ND		ND		ND	5.3	J	ND	ND	ND	---	ND				
	29-Apr-14	5.0	10.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	14-Oct-14	5.0	10.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
	09-Apr-15	2.5	10.0	ND		ND		ND	ND	ND	ND	ND	ND	---	ND				
Barium	Apr-93	---	10	177		220		159		ND		121		ND	166	5600	799	---	
	Sep-93	---	250	ND		1940		ND		ND		ND		ND	ND	---	---	---	
	Apr-94	---	250	ND		ND		ND		ND		ND		ND	ND	---	ND	---	
	Oct-94	---	500	ND		ND		ND		ND		ND		ND	ND	---	567	---	
	Apr-95	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	---	
	Nov-95	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	---	
	May-96	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	---	
	Nov-96	---	500	ND		ND		ND		ND		1040		ND	ND	---	---	ND	
	Mar-97	---	500	ND		ND		ND		ND		531		ND	ND	---	---	ND	
	Sep-97	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	Mar-98	---	500	ND		ND		ND		ND		520		ND	ND	---	---	ND	
	Sep-98	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	Mar-99	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	Sep-99	---	500	ND		ND		ND		ND		549		ND	ND	---	---	ND	
	May-00	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	Oct-00	---	500	ND		ND		ND		ND		507		ND	ND	---	---	ND	
	Mar-01	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	Oct-01	---	500	ND		ND		ND		ND		566		ND	ND	---	---	ND	
	Apr-02	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	Nov-02	---	500	ND		ND		ND		ND		500		ND	ND	---	---	ND	
	May-03	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	Nov-03	---	500	ND		ND		ND		ND		ND(517)		ND	ND	---	---	ND	
	Apr-04	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	Oct-04	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	May-05	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	Oct-05	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	23-May-06	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
	09-Nov-06	---	500	ND		ND		ND		ND		ND		ND	ND	---	---	ND	
NC 2L = 2,000 µg/L (10/23/07)	19-Jun-07	1.1	100	94.9	J	13.3	B	12.2	B	82.3	J	520 (462)	23.6	B	23.1	B	364	---	13.5
NC 2B = NE (05/01/07)	28-Nov-07	1.1	100	380		43.5	J	10.9	B	128 (109)		458	19.7	J	34.7	J	151	---	2.51
	21-Apr-08	1.1	100	101		20.4	B	12.1	B	90.0 (98 J)	J	417	19.5	B	27.9	B	177	---	9.7
	22-Dec-08	1.1	100	95.0	J	9.1	J	8.5 (16.6 J)	J	77.6	J	414	20.0	J	21.3	J	132	---	1.6
	23-Jun-09	1.1	100	168		4.8 (6.1 B)	B	13.1	B	65.4	B	440	19.8	B	19.5	B	294	---	8.5
	15-Dec-09	1.1	100	168		7.6	B	18.1	B	68.6 (64.6 B)	B	400	22.2	B	19.7	B	138	---	18.2
NC 2L = 700 µg/L (01/01/10)	28-Jun-10	1.1	100	81.1	J	4.6	B	7.5	B	45.6	J	325 (362)	18.1		19.6		234	---	2.0
	02-Nov-10	1.1	100	157		6.2	B	9.1 (9.2 B)	B	51.0	B	318	17.7	B	23.8	B	170	---	10.9
	12-Apr-11	0.20	100	106		9.6	B	16.2	B	79.4	J	433	19.3	B	18.2	B	39.8	B	---
	18-Oct-11	5.0	100	133		11.5	J	9.4	J	113		517	19.6	J	20.4	J	---	---	ND
	10-Apr-12	5.0	100	122		9.1	B	8.7	B	94.1	J	328	17.6	B	17.2	B	---	---	15.8
	15-Oct-12	5.0	100	123		5.3	J	8.8	J	72.9	J	359	25.4	J	19.9	J	---	---	ND
	16-Apr-13	5.0	100	168		6.6	J	8.0	J	51.9		372	17.6	J	17.6	J	306	---	ND
	08-Oct-13	5.0	100	122		5.8	J	8.2	J	71.6	J	393	21.8	J	23.0	J	---	---	ND
	29-Apr-14	5.0	100	92.0	J	5.3	J	7.7	J	60.1	J	415	25.4	J	27.3	J	---	---	ND
	14-Oct-14	5.0	100	111		6.9	J	8.6	J	82.0	J	377	20.4	J	19.9	J	---	---	ND
	09-Apr-15	2.5	100	128		8.0	J	8.6	J	70.6	J	327	18.3	J	54.7	J	---	---	ND

**TABLE 1**

**Summary of Historically Detected Constituents**

Analyte	Sample		MW-1	MW-2	MW-3	MW-4	MW-5	Upstream	Downstream	Outfall #1	Outfall #2	Blanks								
	Collection Date	DL											QL							
Beryllium  GWPS = 4 µg/L (10/23/07) NC 2B = 6.5 µg/L (05/01/07)	May-96	---	2	3	6	4	4	4	4	4	5	---	---							
	Nov-96	---	2	ND	ND	ND	ND	6	ND	ND	ND	---	ND							
	Mar-97	---	2	ND	ND	ND	2	4	ND	ND	ND	---	ND							
	Sep-97	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Mar-98	---	2	ND	ND	6	ND	13	ND	ND	ND	---	ND							
	Sep-98	---	2	ND	ND	ND	2	8	ND	ND	7	---	ND							
	Mar-99	---	2	ND	ND	ND	3	9	ND	ND	ND	---	ND							
	Sep-99	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	May-00	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Oct-00	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Mar-01	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Oct-01	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Apr-02	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Nov-02	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	May-03	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Nov-03	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Apr-04	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Oct-04	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	May-05	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	Oct-05	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	23-May-06	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	09-Nov-06	---	2	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	19-Jun-07	0.2	1.0	ND	ND	ND	ND	ND (ND)	ND	ND	ND	---	ND							
	28-Nov-07	0.2	1.0	ND	ND	0.6	B	ND (0.21 B)	ND	ND	ND	---	0.2	J						
	21-Apr-08	0.2	1.0	0.3	J	ND	0.2	J	0.4 (ND)	J	0.2	J	ND	ND						
	22-Dec-08	0.2	1.0	ND	0.8	J	ND (ND)	ND	ND	ND	ND	---	ND	ND						
	23-Jun-09	0.2	1.0	ND	ND (ND)	ND	ND	ND	ND	ND	ND	---	ND	ND						
	15-Dec-09	0.2	1.0	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	ND	ND						
	28-Jun-10	0.2	1.0	ND	ND	ND	ND	ND	ND (ND)	ND	ND	---	ND	ND						
	02-Nov-10	0.2	1.0	0.2	J	0.3	J	ND (ND)	0.4	J	0.3	J	0.2	J	1.8	0.2	J			
	12-Apr-11	0.10	1.0	ND	ND	ND	ND	0.48	B	ND	ND	0.64	B	ND	0.28	J				
	18-Oct-11	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	ND	---				
	10-Apr-12	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	ND	---				
15-Oct-12	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	ND	---					
16-Apr-13	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	ND	---					
08-Oct-13	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	ND	---					
29-Apr-14	1.0	1.0	ND	ND	ND	ND	1.3	ND	ND	---	---	---	ND	ND	---					
14-Oct-14	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	ND	---					
09-Apr-15	0.5	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	ND	---					
Cadmium  NC 2L = 1.75 µg/L (10/23/07) NC 2B = 2 µg/L (05/01/07)  NC 2L = 2 µg/L (01/01/10)	Apr-93	---	2	ND	6	2.1	2	5	2	2	2.3	2.8	---							
	Sep-93	---	2	ND	2.1	ND	ND	ND	ND	ND	---	---	---							
	Apr-94	---	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	---							
	Apr-95	---	1	ND	ND	ND	ND	ND	ND	ND	ND	---	---							
	Nov-95	---	1	ND	ND	ND	1	ND	ND	ND	ND	---	---							
	May-96	---	1	1	10	ND	ND	ND	1	ND	4	---	---							
	Nov-96	---	1	ND	4	1	1	23	ND	ND	ND	---	ND							
	Mar-97	---	1	ND	ND	1	3	18	ND	ND	ND	---	ND							
	Sep-97	---	1	1	2	2	4	15	ND	ND	ND	---	ND							
	Mar-98	---	1	ND	ND	2	ND	5	ND	ND	ND	---	ND							
	Oct-94	---	1	ND	ND	1	ND	ND	ND	ND	ND	ND	---							
	Sep-98	---	1	ND	ND	ND (ND)	1	4	ND	ND	3	---	ND							
	Mar-99	---	1	ND	ND	ND (ND)	ND	2	ND	ND	ND	---	ND							
	Sep-99	---	1	ND	ND	ND	ND	ND	ND	ND	ND	---	ND							
	May-00	---	1	ND	ND	ND (ND)	ND	ND	ND	ND	ND	---	ND							
	Oct-00	---	1	1	ND	ND	2(1)	6	1	ND	1	---	ND							
	Mar-01	---	1	ND	ND (ND)	ND	1	4	ND	ND	ND	---	ND							
	Oct-01	---	1	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	ND							
	Apr-02	---	1	ND	2	ND	ND (ND)	1	ND	ND	ND	---	ND							
	Nov-02	---	1	ND	ND	ND (ND)	1	ND	ND	ND	ND	---	ND							
	May-03	---	1	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	ND							
	Nov-03	---	1	ND	ND	ND	ND	ND (ND)	ND	ND	ND	---	ND							
	Apr-04	---	1	ND	1	ND (ND)	ND	ND	ND	ND	ND	---	ND							
	Oct-04	---	1	ND	ND (ND)	ND	ND	ND	ND	ND	ND	---	ND							
	May-05	---	1	ND	ND (ND)	ND	ND	ND	ND	ND	ND	---	ND							
	Oct-05	---	1	ND	ND	ND	ND	ND (ND)	ND	ND	ND	---	ND							
	23-May-06	---	1	ND	ND (ND)	ND	1	6	ND	1	2	---	ND							
	09-Nov-06	---	1	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	ND							
	19-Jun-07	0.2	1.0	1.6	B	1.8	B	1.0	B	2.4	B	10.2 (8.1)	1.3	B	0.9	B	5.9	---	0.7	J
	28-Nov-07	0.2	1.0	0.25	J	0.4	J	0.5	J	<b>0.65 (6.0)</b>	J	3.1	J	ND	ND	0.86	J	---	ND	---
	21-Apr-08	0.2	1.0	0.5	J	0.3	J	0.4	J	ND (ND)	ND	ND	---	ND	ND	---	---	ND	---	
	22-Dec-08	0.2	1.0	0.96	B	1.0	B	ND (ND)	ND	ND	ND	---	---	ND	ND	---	---	0.8	J	---
	23-Jun-09	0.2	1.0	0.6	J	0.5 (ND)	J	ND	ND	0.3	J	ND	---	ND	ND	---	---	ND	---	
15-Dec-09	0.2	1.0	ND	0.8	J	ND	ND (ND)	ND	0.5	J	ND	---	ND	ND	---	---	ND	---		
28-Jun-10	0.2	1.0	0.4	J	0.2	J	0.3	J	0.6	J	<b>4.5 (4.8)</b>	0.3	J	ND	<b>2.6</b>	---	---	ND	---	
02-Nov-10	0.2	1.0	0.5	J	0.4	J	ND (1.2)	1.0	<b>8.8</b>	0.4	J	0.3	J	0.9	J	---	---	ND	---	
12-Apr-11	0.50	1.0	ND	ND	ND	ND	ND	ND	ND	ND	0.59	J	---	---	---	---	ND	---		
18-Oct-11	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	ND	---		
10-Apr-12	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	ND	---		
15-Oct-12	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	ND	---		
16-Apr-13	1.0	1.0	ND	ND	ND	ND	1.7	ND	ND	ND	---	---	---	---	---	---	ND	---		
08-Oct-13	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	ND	---		
29-Apr-14	1.0	1.0	ND	ND	ND	ND	1.3	ND	ND	---	---	---	---	---	---	---	ND	---		
14-Oct-14	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	ND	---		
09-Apr-15	0.5	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	ND	---		

**TABLE 1**

**Summary of Historically Detected Constituents**

Analyte	Sample		DL	QL	MW-1	MW-2	MW-3	MW-4	MW-5	Upstream	Downstream	Outfall #1	Outfall #2	Blanks	
	Collection Date														
Chromium	Apr-93	---	40	ND	140	ND	ND	ND	ND	ND	ND	ND	ND	---	
	Sep-93	---	20	ND	673	ND	ND	ND	ND	ND	ND	ND	---	---	
	Apr-94	---	20	ND	31	ND	ND	ND	ND	ND	ND	ND	ND	---	
	Oct-94	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	16	---	
	Apr-95	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	
	Nov-95	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	
	May-96	---	10	ND	118	11	ND	ND	ND	ND	ND	ND	---	---	
	Nov-96	---	10	ND	48	12	ND	154	ND	ND	ND	ND	---	ND	
	Mar-97	---	10	ND	ND	10	ND	38	ND	ND	ND	ND	---	ND	
	Sep-97	---	10	ND	17	26	ND	11	ND	ND	ND	ND	---	ND	
	Mar-98	---	10	ND	ND	25	ND	16	ND	ND	ND	ND	---	ND	
	Sep-98	---	10	ND	ND	ND	12	17	ND	ND	ND	ND	---	ND	
	Mar-99	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Sep-99	---	10	ND	ND	ND	ND	36	ND	ND	ND	ND	ND	---	
	May-00	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Oct-00	---	10	ND	ND	ND	ND	11	ND	ND	ND	ND	---	ND	
	Mar-01	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Oct-01	---	10	ND	ND	ND	ND	27	ND	ND	ND	ND	---	ND	
	Apr-02	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Nov-02	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	May-03	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Nov-03	---	10	ND	ND	ND	ND	12(14)	ND	ND	ND	ND	---	ND	
	Apr-04	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Oct-04	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	May-05	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Oct-05	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	23-May-06	---	10	ND	ND	ND	ND	12	ND	ND	ND	ND	---	ND	
	09-Nov-06	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	19-Jun-07	0.7	10.0	2.4	B	1.0	B	1.4	B	5.3	B	17.9	B	6.2	B
	NC 2L = 50 µg/L (10/23/07)	28-Nov-07	0.7	10.0	1.8	J	3.3	J	1.3	J	9.0	(19.7)	J	4.3	J
	NC 2B = 50 µg/L (05/01/07)	21-Apr-08	0.7	10.0	2.1	J	ND	ND	5.6	(ND)	J	ND	ND	ND	---
		22-Dec-08	0.7	10.0	1.1	J	2.2	J	ND	(1.2 J)	J	7.6	J	7.2	J
		23-Jun-09	0.7	10.0	2.5	J	1.4	(ND)	J	1.1	J	2.0	J	5.6	J
		15-Dec-09	0.7	10.0	2.4	J	4.7	J	0.8	J	2.2	(1.9 J)	J	8.0	J
	NC 2L = 10 µg/L (01/01/10)	28-Jun-10	0.7	10.0	ND	1.4	J	ND	ND	ND	ND	(ND)	ND	ND	---
	02-Nov-10	0.7	10.0	1.6	J	ND	ND	(ND)	2.3	J	ND	ND	1.4	J	
	12-Apr-11	0.40	10.0	ND	4.1	J	1.1	J	1.7	J	12.2	0.60	J	0.80	
	18-Oct-11	5.0	10.0	ND	5.4	J	ND	J	9.4	J	19.5	ND	ND	---	
	10-Apr-12	5.0	10.0	ND	ND	ND	ND	6.4	J	ND	ND	ND	ND	---	
	15-Oct-12	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	
	16-Apr-13	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	5.6	J	---	
	08-Oct-13	5.0	10.0	ND	ND	8.6	J	ND	ND	ND	ND	---	---	---	
	29-Apr-14	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	
	14-Oct-14	5.0	10.0	ND	ND	ND	ND	ND	ND	10.7	5.4	J	---	---	
	09-Apr-15	2.5	10.0	ND	ND	ND	4.0	J	2.7	J	ND	5.7	J	---	
Cobalt	Oct-94	---	10	ND	ND	ND	18	ND	ND	ND	ND	ND	24	---	
	Apr-95	---	10	ND	ND	ND	ND	ND	ND	ND	ND	10	---	---	
	Nov-95	---	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	
	May-96	---	10	ND	34	ND	21	ND	ND	ND	ND	13	---	---	
	Nov-96	---	10	ND	11	ND	18	86	ND	ND	ND	ND	---	ND	
	Mar-97	---	10	ND	ND	ND	20	44	ND	ND	ND	ND	---	ND	
	Sep-97	---	10	ND	ND	0.014	31	27	ND	ND	ND	ND	---	ND	
	Mar-98	---	10	ND	ND	34	18	37	ND	ND	ND	ND	---	ND	
	Sep-98	---	10	ND	ND	ND	26	30	ND	ND	ND	12	---	ND	
	Mar-99	---	10	ND	ND	ND	16	25	ND	ND	ND	ND	---	ND	
	Sep-99	---	10	ND	ND	ND	17	33	ND	ND	ND	ND	---	ND	
	May-00	---	10	ND	ND	ND	18	32	ND	ND	ND	ND	---	ND	
	Oct-00	---	10	ND	ND	ND	23(22)	32	ND	ND	ND	ND	---	ND	
	Mar-01	---	10	ND	ND	ND	18	24	ND	ND	ND	ND	---	ND	
	Oct-01	---	10	ND	ND	20	20(20)	35	ND	ND	ND	ND	---	ND	
	Apr-02	---	10	ND	ND	ND	11(12)	25	ND	ND	ND	ND	---	ND	
	Nov-02	---	10	ND	ND	ND	20	28	ND	ND	ND	ND	---	ND	
	May-03	---	10	ND	ND	ND	19(19)	22	ND	ND	ND	ND	---	ND	
	Nov-03	---	10	ND	ND	ND	16	28(29)	ND	ND	ND	ND	---	ND	
	Apr-04	---	10	ND	ND	ND	13	23	ND	ND	ND	12	---	ND	
	Oct-04	---	10	ND	ND	ND	14	19	ND	ND	ND	ND	---	ND	
	May-05	---	10	ND	ND	ND	11	23	ND	ND	ND	11	---	ND	
	Oct-05	---	10	ND	ND	ND	19	19(20)	ND	ND	ND	ND	---	ND	
	23-May-06	---	10	ND	ND	ND	15	24	ND	ND	ND	10	---	ND	
	09-Nov-06	---	10	ND	ND	ND	16(15)	19	ND	ND	ND	ND	---	ND	
	19-Jun-07	0.7	10.0	ND	ND	ND	14.8	28.2	(23.8)	ND	ND	10.6	---	ND	
	GWPS = 70 µg/L (10/23/07)	28-Nov-07	0.7	10.0	ND	0.8	J	ND	19.4	(15.3)	18.8	ND	ND	---	ND
	NC 2B = NE (05/01/07)	21-Apr-08	0.7	10.0	1.5	J	1.0	J	0.8	J	13.8	(12.6)	21.7	ND	ND
		22-Dec-08	0.7	10.0	ND	1.9	J	ND	(ND)	12.7	20.8	ND	ND	4.1	J
		23-Jun-09	0.7	10.0	4.0	J	ND	(ND)	ND	8.7	J	20.1	ND	ND	9.9
	15-Dec-09	0.7	10.0	3.2	J	1.7	J	ND	12.0	(11.6)	18.8	ND	ND	4.7	
	28-Jun-10	0.7	10.0	ND	ND	ND	5.8	J	15.6	(16.4)	ND	ND	8.5	J	
GWPS = 1 µg/L (10/1/10)	02-Nov-10	0.7	10.0	3.5	J	ND	ND	(ND)	13.9	13.9	ND	ND	5.6	J	
	12-Apr-11	0.60	10.0	1.5	B	1.9	B	2.2	B	12.4	8.8	J	2.5	B	
	18-Oct-11	5.0	10.0	ND	ND	ND	25.0	64.5	ND	ND	---	---	---	---	
	10-Apr-12	5.0	10.0	ND	ND	ND	13.1	23.2	ND	ND	---	---	---	---	
	15-Oct-12	5.0	10.0	ND	ND	ND	9.5	J	ND	ND	---	---	---	---	
	16-Apr-13	5.0	10.0	13.0	J	ND	ND	7.8	J	95.1	ND	ND	14.1	---	
	08-Oct-13	5.0	10.0	8.4	J	ND	ND	17.7	102	ND	ND	---	---	---	
	29-Apr-14	5.0	10.0	ND	ND	ND	6.8	J	ND	ND	---	---	---	---	
	14-Oct-14	5.0	10.0	ND	ND	ND	11.4	J	11.5	ND	ND	---	---	---	
	09-Apr-15	2.5	10.0	ND	ND	ND	9.8	J	13.7	ND	ND	---	---	---	



**TABLE 1**

**Summary of Historically Detected Constituents**

Analyte	Sample		MW-1	MW-2	MW-3	MW-4	MW-5	Upstream	Downstream	Outfall #1	Outfall #2	Blanks												
	Collection Date	DL											QL											
Nickel	Nov-96	---	50	ND	ND	ND	76	ND	ND	ND	---	ND												
	Mar-97	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Sep-97	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Mar-98	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Sep-98	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Mar-99	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Sep-99	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	May-00	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Oct-00	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Mar-01	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Oct-01	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Apr-02	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Nov-02	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	May-03	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Nov-03	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Apr-04	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Oct-04	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	May-05	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	Oct-05	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	23-May-06	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	09-Nov-06	---	50	ND	ND	ND	ND	ND	ND	ND	---	ND												
	19-Jun-07	0.6	50.0	ND	ND	1.4	B	9.0	B	16.8 B (11.4 B)	11.2	B	4.0	B	12.8	B	---	9.6	J					
	NC 2L = 100 µg/L (10/23/07)	28-Nov-07	0.6	50.0	1.4	B	ND	1.6	B	5.2 (13.6 J)	B	7.9	J	1.9	B	1.1	B	12.2	J	---	1.4	J		
	NC 2B = 88 µg/L (05/01/07)	21-Apr-08	0.6	50.0	2.0	B	ND	ND	2.6 (3.9 B)	B	9.1	B	ND	ND	9.5	B	---	---	---	---	3.3	J		
		22-Dec-08	0.6	50.0	ND		5.7	J	ND (ND)	7.5	J	13.2	J	ND	ND	7.8	J	---	---	---	---	ND		
		23-Jun-09	0.6	50.0	1.5	B	ND (ND)		ND	2.4	B	9.9	B	ND	ND	9.0	B	---	---	---	---	2.8	J	
		15-Dec-09	0.6	50.0	ND		2.1	J	ND	1.3 (1.1 J)	J	8.2	J	ND	ND	5.4	J	---	---	---	---	ND		
		28-Jun-10	0.6	10.0	ND		ND		ND	5.7 (5.7 J)	J	7.1	J	ND	ND	8.5	J	---	---	---	---	ND		
		02-Nov-10	0.6	50.0	2.8	B	1.3	B	1.3 (ND)	B	5.2	B	7.1	J	1.1	B	0.7	B	9.5	J	---	---	1.3	J
		12-Apr-11	1.7	50.0	ND		ND		ND	2.2	B	11.2	B	ND	ND	ND	---	---	---	---	---	---	4.4	J
	18-Oct-11	5.0	50.0	ND		ND		ND	12.4	J	ND	ND	---	---	---	---	---	---	---	---	---	ND		
	10-Apr-12	5.0	50.0	ND		ND		ND	6.8	J	ND	ND	---	---	---	---	---	---	---	---	---	ND		
	15-Oct-12	5.0	50.0	ND		ND		ND	ND		ND	ND	---	---	---	---	---	---	---	---	---	ND		
	16-Apr-13	5.0	50.0	ND		ND		ND	8.1	J	ND	ND	19.6	J	---	---	---	---	---	---	---	ND		
	08-Oct-13	5.0	50.0	ND		ND		ND	6.7	J	ND	ND	---	---	---	---	---	---	---	---	---	ND		
	29-Apr-14	5.0	50.0	ND		ND		ND	10.0	J	ND	ND	---	---	---	---	---	---	---	---	---	ND		
	14-Oct-14	5.0	50.0	ND		ND		ND	9.3	J	ND	ND	---	---	---	---	---	---	---	---	---	ND		
	09-Apr-15	2.5	50.0	ND		ND		ND	3.6	J	8.4	J	ND	ND	---	---	---	---	---	---	---	ND		
Selenium	Apr-93	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Sep-93	---	5	ND	25	ND	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Apr-94	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Oct-94	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Apr-95	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Nov-95	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	May-96	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Nov-96	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Mar-97	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Sep-97	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Mar-98	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Sep-98	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Mar-99	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Sep-99	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	May-00	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Oct-00	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Mar-01	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Oct-01	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Apr-02	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Nov-02	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	May-03	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Nov-03	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Apr-04	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Oct-04	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	May-05	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	Oct-05	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	23-May-06	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	09-Nov-06	---	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	19-Jun-07	6.3	10.0	ND	ND	ND	ND	ND (ND)	ND	ND (ND)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
	NC 2L = 50 µg/L (10/23/07)	28-Nov-07	6.3	10.0	ND	ND	ND	ND (ND)	ND	7.6	B	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---		
NC 2B = 5 µg/L (05/01/07)	21-Apr-08	6.3	10.0	ND	ND	ND	ND (4.7 J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	22-Dec-08	6.3	10.0	ND	ND	ND (ND)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	23-Jun-09	6.3	10.0	ND	ND (ND)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	15-Dec-09	6.3	10.0	ND	ND	ND	ND (ND)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
NC 2L = 20 µg/L (01/01/10)	28-Jun-10	6.3	10.0	ND	ND	ND	ND	ND	ND (ND)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	02-Nov-10	6.3	10.0	ND	ND	ND (ND)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	12-Apr-11	3.8	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	18-Oct-11	10.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	10-Apr-12	10.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	15-Oct-12	10.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	16-Apr-13	10.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	08-Oct-13	10.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---			
	29-Apr-14	10.0	10.0	ND	ND	ND	ND	ND	15.7	ND	ND	ND	---	---	---									

**TABLE 1**

**Summary of Historically Detected Constituents**

Analyte	Sample		MW-1	MW-2	MW-3	MW-4	MW-5	Upstream	Downstream	Outfall #1	Outfall #2	Blanks		
	Collection Date	DL											QL	
Silver NC 2L = 17.5 µg/L (10/23/07) NC 2B = 0.06 µg/L (05/01/07)  NC 2L = 20 µg/L (01/01/10)	28-Nov-07	1.1	10.0	ND	ND	1.5 J	ND (ND)	ND	ND	ND	---	ND		
	21-Apr-08	1.1	10.0	ND	ND	ND	ND (ND)	ND	ND	ND	---	ND		
	22-Dec-08	1.1	10.0	ND	ND	ND (ND)	ND	ND	ND	ND	---	ND		
	23-Jun-09	1.1	10.0	ND	1.1 (ND) B	ND	ND	ND	ND	ND	---	9.3 J		
	15-Dec-09	1.1	10.0	ND	ND	ND	2.3 (ND) B	ND	1.4 B	2.2 B	ND	---	1.6 J	
	28-Jun-10	1.1	10.0	1.2 J	1.4 J	1.4 J	ND	ND (ND)	ND	ND	ND	---	ND	
	02-Nov-10	1.1	10.0	ND	ND	ND (ND)	ND	ND	ND	ND	ND	---	ND	
	12-Apr-11	0.10	10.0	ND	ND	ND	ND	ND	ND	ND	0.12 B	---	0.21 J	
	18-Oct-11	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	10-Apr-12	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	15-Oct-12	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	16-Apr-13	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	08-Oct-13	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	29-Apr-14	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	14-Oct-14	5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	09-Apr-15	2.5	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
Thallium GWPS = 0.28 µg/L (10/23/07) NC 2B = NE (05/01/07)  GWPS = 0.2 µg/L (10/1/10)	19-Jun-07	2.7	5.5	ND	ND	4.3 J	ND	ND (ND)	ND	ND	---	ND		
	28-Nov-07	2.7	5.5	ND	ND	ND	ND	ND	ND	ND	---	ND		
	21-Apr-08	2.7	5.5	ND	ND	2.9 B	ND (ND)	ND	ND	ND	---	3.3 J		
	22-Dec-08	2.7	5.5	ND	ND	ND (ND)	ND	ND	ND	ND	---	4.0 J		
	23-Jun-09	2.7	5.5	ND	4.0 (ND) J	ND	ND	ND	ND	ND	---	ND		
	15-Dec-09	2.7	5.5	ND	ND	ND	ND (ND)	ND	ND	ND	---	ND		
	28-Jun-10	2.7	5.5	ND	3.0 J	ND	ND	ND (ND)	ND	ND	---	ND		
	02-Nov-10	2.7	5.5	ND	ND	ND (ND)	ND	ND	ND	4.7 B	4.5 B	---	3.9 J	
	12-Apr-11	3.0	5.5	ND	ND	ND	ND	3.0 J	ND	ND	---	---	ND	
	18-Oct-11	5.4	5.5	ND	ND	ND	5.8	ND	ND	ND	---	---	ND	
	10-Apr-12	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	15-Oct-12	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	16-Apr-13	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	08-Oct-13	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	29-Apr-14	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	14-Oct-14	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
09-Apr-15	5.0	5.5	ND	ND	ND	ND	ND	ND	ND	---	---	ND		
Vanadium	Oct-94	---	40	ND	ND	ND	174	62	ND	ND	127	256	---	
	Apr-95	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	---	
	Nov-95	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	---	
	May-96	---	40	ND	152	ND	ND	ND	ND	ND	ND	---	---	
	Nov-96	---	40	ND	59	ND	ND	203	ND	ND	ND	---	ND	
	Mar-97	---	40	ND	ND	ND	ND	66	ND	ND	ND	---	ND	
	Sep-97	---	40	ND	ND	55	ND	ND	ND	ND	ND	---	ND	
	Mar-98	---	40	ND	ND	87	ND	48	ND	ND	ND	---	ND	
	Sep-98	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Mar-99	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Sep-99	---	40	ND	ND	ND	ND	92	ND	ND	ND	ND	ND	
	May-00	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Oct-00	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Mar-01	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Oct-01	---	40	ND	ND	ND	ND	57	ND	ND	ND	---	ND	
	Apr-02	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Nov-02	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	May-03	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Nov-03	---	40	ND	ND	ND	ND	41(47)	ND	ND	ND	---	ND	
	Apr-04	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Oct-04	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	May-05	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	Oct-05	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	23-May-06	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	09-Nov-06	---	40	ND	ND	ND	ND	ND	ND	ND	ND	---	ND	
	19-Jun-07	0.4	25.0	ND	ND	ND	6.9 J	30.0 (14.0 J)	ND	ND	ND	---	ND	
	28-Nov-07	0.4	25.0	ND	3.0 J	ND	11.3 (7.4 J)	J	ND	ND	ND	---	ND	
	21-Apr-08	0.4	25.0	ND	4.0 J	ND	4.3 (4.6 J)	J	22.4 J	ND	ND	---	ND	
	22-Dec-08	0.4	25.0	2.2 J	1.9 J	ND (ND)	1.5 J	16.7 J	J	ND	ND	---	ND	
	23-Jun-09	0.4	25.0	ND	ND (ND)	ND	2.5 J	16.8 J	J	ND	ND	3.6 J	---	ND
	15-Dec-09	0.4	25.0	ND	5.6 B	1.9 B	2.3 (2.3 B)	B	16.6 B	B	ND	0.6 B	---	5.2 J
	28-Jun-10	0.4	25.0	3.4 J	ND	ND	ND	3.3 (7.1 J)	J	ND	1.3 J	ND	---	ND
	02-Nov-10	0.4	25.0	ND	ND	0.9 (1.3 J)	J	1.4 J	8.9 J	J	1.1 J	0.6 J	2.0 J	---
12-Apr-11	0.20	25.0	ND	5.3 J	1.7 J	J	ND	23.2 J	J	0.64 B	0.72 B	1.9 J	---	0.27 J
18-Oct-11	5.0	25.0	ND	6.6 J	ND	J	19.1 J	31.8	ND	ND	---	---	---	ND
10-Apr-12	5.0	25.0	ND	ND	ND	ND	12.1 J	ND	ND	ND	---	---	---	ND
15-Oct-12	5.0	25.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND
16-Apr-13	5.0	25.0	ND	ND	ND	ND	ND	5.4 J	J	ND	ND	---	---	ND
08-Oct-13	5.0	25.0	ND	ND	ND	ND	ND	ND	J	ND	ND	---	---	ND
29-Apr-14	5.0	25.0	ND	ND	ND	ND	ND	20.7 J	J	ND	ND	---	---	ND
14-Oct-14	5.0	25.0	ND	ND	ND	ND	ND	ND	J	ND	ND	---	---	ND
09-Apr-15	2.5	25.0	2.8 J	ND	ND	11.2 J	8.9 J	J	ND	5.3 J	---	---	---	ND

**TABLE 1**

**Summary of Historically Detected Constituents**

Analyte	Sample		MW-1	MW-2	MW-3	MW-4	MW-5	Upstream	Downstream	Outfall #1	Outfall #2	Blanks												
	Collection Date	DL											QL											
Zinc	Apr-93	---	20	49	312	78	44	59	ND	34	4290	83	---											
	Sep-93	---	20	ND	1640	ND	ND	ND	ND	ND	---	---	---											
	Apr-94	---	20	25	88	ND	ND	ND	26	26	54	60	---											
	Oct-94	---	50	ND	68	ND	ND	ND	ND	ND	ND	ND	---											
	Apr-95	---	50	ND	ND	98	ND	ND	ND	ND	ND	---	---											
	Nov-95	---	50	ND	ND	ND	ND	81	ND	50	84	---	---											
	May-96	---	50	97	327	159	68	70	71	ND	91	---	---											
	Nov-96	---	50	90	159	84	ND	418	50	86	ND	---	ND											
	Mar-97	---	50	ND	99	88	56	130	ND	ND	ND	---	ND											
	Sep-97	---	50	70	560	200	72	171	118	200	ND	---	ND											
	Mar-98	---	50	ND	168	197	ND	94	ND	ND	ND	---	ND											
	Sep-98	---	50	ND	ND	ND	ND	ND	159	ND	123	---	ND											
	Mar-99	---	50	ND	ND	ND	ND	ND	ND	ND	ND	---	ND											
	Sep-99	---	50	ND	ND	ND	ND	61	ND	ND	ND	---	ND											
	May-00	---	50	ND	ND	ND	ND	ND	ND	ND	ND	---	---											
	Oct-00	---	50	ND	63	ND	ND	ND	ND	ND	ND	---	ND											
	Mar-01	---	50	ND	ND	ND	ND	ND	ND	ND	ND	---	ND											
	Oct-01	---	50	ND	ND	ND	ND	ND	ND	ND	ND	---	ND											
	Apr-02	---	50	ND	ND	ND	ND	ND	ND	ND	ND	---	ND											
	Nov-02	---	50	52	70	57(ND)	50	69	ND	ND	ND	---	ND											
	May-03	---	50	ND	77	ND	ND	ND	50	ND	61	---	ND											
	Nov-03	---	50	ND	ND	ND	78	52(89)	ND	51	135	---	ND											
	Apr-04	---	50	ND	ND	ND	ND	ND	ND	ND	ND	---	ND											
	Oct-04	---	50	ND	ND	ND	ND	ND	ND	ND	138	---	ND											
	May-05	---	50	ND	ND	ND	ND	ND	ND	ND	ND	---	ND											
	Oct-05	---	50	137	ND	ND	ND	ND	ND	ND	79	---	ND											
	23-May-06	---	50	ND	ND	ND	ND	ND	ND	ND	ND	---	ND											
	09-Nov-06	---	50	ND	ND	ND	ND	ND	ND	ND	ND	---	74											
	19-Jun-07	2.7	10.0	53.4	103	39.6	49.4	110 (95.8)	89.9	73.2	144	---	3.0	J										
	NC 2L = 1,050 µg/L (10/23/07)	28-Nov-07	2.7	10.0	13.2	B	33.4	B	8.3	B	11.2 (70.6)	B	26.8	B	7.6	B	5.8	B	28.9	B	---	7.1	J	
	NC 2B = 50 µg/L (05/01/07)	21-Apr-08	2.7	10.0	ND	ND	ND	ND (ND)	17.9	B	ND	ND	21.3	B	---	---	---	---	---	---	---	6.0	J	
		22-Dec-08	2.7	10.0	ND	10.3	B	ND (ND)	11.4	B	ND	ND	ND	---	---	---	---	---	---	---	---	11.1	J	
		23-Jun-09	2.7	10.0	83.7	B	ND (ND)	76.1	B	27.1	B	108	B	36.8	B	41.3	B	79.7	B	---	---	---	51.8	B
		15-Dec-09	2.7	10.0	ND	20.5	B	8.8	B	7.4 (ND)	B	29.4	B	30.8	B	11.2	B	ND	---	---	---	26.5	---	
	NC 2L = 1,000 µg/L (01/01/10)	28-Jun-10	2.7	10.0	20.0	B	9.6	B	14.9	B	18.2	B	15.9 (18.5 B)	B	8.5	B	24.6	B	25.9	B	---	9.0	J	
	02-Nov-10	2.7	10.0	11.4	B	17.4	B	11.9 (7.2 B)	B	14.6	B	22.8	B	11.3	B	14.3	B	16.5	B	---	13.3	---		
	12-Apr-11	0.40	10.0	7.4	B	14.8	B	7.0	B	5.0	B	28.9	B	3.6	B	4.2	B	9.7	B	---	22.5	---		
	18-Oct-11	10.0	10.0	ND	14.0	ND	14.5	57.6	ND	ND	---	---	ND	ND	---	---	---	---	---	---	ND	---		
	10-Apr-12	10.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	ND	---	---	---	---	---	---	ND	---		
	15-Oct-12	10.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	ND	---	---	---	---	---	---	ND	---		
	16-Apr-13	10.0	10.0	ND	12.3	ND	ND	11.3	ND	ND	17.3	---	ND	ND	---	---	---	---	---	---	ND	---		
	08-Oct-13	10.0	10.0	ND	ND	ND	ND	14.5	ND	ND	---	---	ND	ND	---	---	---	---	---	---	ND	---		
	29-Apr-14	10.0	10.0	ND	ND	ND	ND	27.3	ND	ND	---	---	ND	ND	---	---	---	---	---	---	ND	---		
	14-Oct-14	10.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND	ND	---	---	---	---	---	---	ND	---		
	09-Apr-15	5.0	10.0	5.9	J	7.4	J	ND	6.1	J	5.5	J	ND	16.9	---	---	---	---	---	---	ND	---		
<b>Organic Compounds</b>																								
Acetone	19-Jun-07	1.2	100	ND	ND	ND	5.3	J	ND (ND)	ND	ND	7.0	J	---	---	---	---	---	---	---	ND	---		
NC 2L = 700 µg/L (10/23/07)	28-Nov-07	1.2	100	ND	2.40	J	1.85	J	2.0 (2.8 J)	J	ND	1.8	J	2.7	J	2.3	J	---	---	---	ND	---		
NC 2B = NE (05/01/07)	21-Apr-08	1.2	100	8.69	J	7.17	J	ND	ND (ND)	ND	ND	6.1	J	ND	---	---	---	---	---	---	ND	---		
	22-Dec-08	1.2	100	3.1	J	ND	ND (ND)	3.6	J	ND	ND	2.1	J	ND	ND	---	---	---	---	---	ND	---		
	23-Jun-09	1.2	100	ND	ND (ND)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	ND	---		
	15-Dec-09	1.2	100	ND	ND	ND	ND (ND)	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	ND	---		
NC 2L = 6,000 µg/L (01/01/10)	28-Jun-10	1.2	100	ND	ND	ND	ND	ND	ND (ND)	ND	ND	ND	ND	ND	ND	---	---	---	---	---	ND	---		
	02-Nov-10	1.2	100	ND	ND	ND (ND)	ND	20.2	J	ND	ND	ND	ND	ND	ND	---	---	---	---	---	ND	---		
	12-Apr-11	2.2	100	ND	ND	ND	ND	ND	ND	ND	2.7	J	---	---	---	---	---	---	---	---	ND	---		
	18-Oct-11	2.2	100	ND	ND	ND	2.3	B	3.2	B	2.8	B	2.5	B	---	---	---	---	---	---	2.2	J		
	10-Apr-12	2.2	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	---	6.0	J		
	15-Oct-12	10.0	100	ND	ND	ND	ND	15.1	J	ND	ND	---	---	---	---	---	---	---	---	---	ND	---		
	16-Apr-13	10.0	100	ND	10.6	B	ND	10.0	B	ND	ND	10.7	B	22.5	B	---	---	---	---	---	48.9	J		
	08-Oct-13	10.0	100	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	ND	---		
	29-Apr-14	10.0	100	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	ND	---		
	14-Oct-14	10.0	100	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	ND	---		
	09-Apr-15	10.0	100	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	ND	---		



**TABLE 1**

**Summary of Historically Detected Constituents**

Analyte	Sample			MW-1	MW-2	MW-3	MW-4	MW-5	Upstream	Downstream	Outfall #1	Outfall #2	Blanks		
	Collection Date	DL	QL												
Chloromethane	22-Dec-08	0.1	1.0	ND	ND	ND	ND	ND	ND	ND	0.2	J	---	ND	
NC 2L = 2.6 µg/L (10/23/07)	23-Jun-09	0.1	1.0	ND	ND (ND)	ND	ND	ND	ND	ND	ND	---	---	ND	
NC 2B = NE (05/01/07)	15-Dec-09	0.1	1.0	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	---	ND	
NC 2L = 3 µg/L (01/01/10)	28-Jun-10	0.1	1.0	ND	ND	ND	ND	ND (ND)	ND	ND	ND	---	---	ND	
	02-Nov-10	0.1	1.0	ND	ND	ND (ND)	ND	ND	ND	ND	ND	---	---	ND	
	12-Apr-11	0.11	1.0	ND	ND	0.19	J	ND	ND	ND	ND	---	---	ND	
	18-Oct-11	0.11	1.0	0.14	J	ND	ND	ND	0.16	J	0.13	J	---	---	ND
	10-Apr-12	0.11	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	15-Oct-12	0.11	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	16-Apr-13	0.11	1.0	0.43	J	ND	ND	ND	ND	ND	ND	---	---	ND	
	08-Oct-13	0.11	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	29-Apr-14	0.11	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	14-Oct-14	0.11	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	09-Apr-15	0.11	1.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
Cis-1,2-Dichloroethene	Oct-94	---	5	8	ND	ND	ND	11	ND	ND	ND	ND	---	ND	
	Apr-95	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	
	Nov-95	---	5	ND	ND	ND	ND	8	ND	ND	ND	---	---	---	
	May-96	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	
	Nov-96	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Mar-97	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Sep-97	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Mar-98	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Sep-98	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Mar-99	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Sep-99	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	May-00	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Oct-00	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Mar-01	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Oct-01	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Apr-02	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Nov-02	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	May-03	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Nov-03	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Apr-04	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Oct-04	---	---	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	May-05	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	Oct-05	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	23-May-06	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	09-Nov-06	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	19-Jun-07	0.1	5.0	ND	ND	ND	ND	ND (ND)	ND	ND	ND	---	---	ND	
NC 2L = 70 µg/L (10/23/07)	28-Nov-07	0.1	5.0	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	---	ND	
NC 2B = NE (05/01/07)	21-Apr-08	0.1	5.0	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	---	ND	
	22-Dec-08	0.1	5.0	ND	ND	ND (ND)	ND	ND	ND	ND	ND	---	---	ND	
	23-Jun-09	0.1	5.0	ND	ND (ND)	ND	ND	ND	ND	ND	ND	---	---	ND	
	15-Dec-09	0.1	5.0	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	---	ND	
	28-Jun-10	0.1	5.0	ND	ND	ND	ND	ND (ND)	ND	ND	ND	---	---	ND	
	02-Nov-10	0.1	5.0	ND	ND	ND (ND)	ND	ND	ND	ND	ND	---	---	ND	
	12-Apr-11	0.19	5.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	18-Oct-11	0.19	5.0	ND	ND	ND	0.25	J	ND	ND	---	---	---	ND	
	10-Apr-12	0.19	5.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	15-Oct-12	0.19	5.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	16-Apr-13	0.19	5.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	
	08-Oct-13	0.19	5.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	29-Apr-14	0.19	5.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	14-Oct-14	0.19	5.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	09-Apr-15	0.19	5.0	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	

**TABLE 1**

**Summary of Historically Detected Constituents**

Analyte	Sample		MW-1	MW-2	MW-3	MW-4	MW-5	Upstream	Downstream	Outfall #1	Outfall #2	Blanks											
	Collection Date	DL											QL										
1,2-Dichlorobenzene NC 2L = 24 µg/L (10/23/07) NC 2B = NE (05/01/07) NC 2L = 20 µg/L (01/01/10)	Apr-02	---	5	ND	ND	ND	ND	5.4	ND	ND	ND	---	ND										
	Nov-02	---	5	ND	ND	ND	ND	5.2	ND	ND	ND	---	ND										
	May-03	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	Nov-03	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	Apr-04	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	Oct-04	---	5	ND	ND	ND	ND	6.7	ND	ND	ND	---	ND										
	May-05	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	Oct-05	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	23-May-06	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	09-Nov-06	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	19-Jun-07	0.1	5.0	ND	ND	ND	ND	ND (ND)	ND	ND	ND	---	ND										
	28-Nov-07	0.1	5.0	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	ND										
	21-Apr-08	0.1	5.0	ND	ND	ND	ND (ND)	0.4	J	ND	ND	---	ND										
	22-Dec-08	0.1	5.0	ND	ND	ND (ND)	ND	0.3	J	ND	ND	---	ND										
	23-Jun-09	0.1	5.0	ND	ND (ND)	ND	ND	0.4	J	ND	ND	---	ND										
	15-Dec-09	0.1	5.0	ND	ND	ND	ND (ND)	0.4	J	ND	ND	---	ND										
	28-Jun-10	0.1	5.0	ND	ND	ND	ND	0.2 (0.2 J)	J	ND	ND	---	ND										
	02-Nov-10	0.1	5.0	ND	ND	ND (ND)	ND	ND	ND	ND	ND	---	ND										
	12-Apr-11	0.30	5.0	ND	ND	ND	ND	0.34	J	ND	ND	---	ND										
	18-Oct-11	0.30	5.0	ND	ND	ND	ND	0.32	J	ND	ND	---	ND										
10-Apr-12	0.30	5.0	ND	ND	ND	ND	0.32	J	ND	ND	---	ND											
15-Oct-12	0.30	5.0	ND	ND	ND	ND	ND	ND	ND	ND	---	ND											
16-Apr-13	0.30	5.0	0.81	J	ND	ND	0.38	J	ND	ND	---	ND											
08-Oct-13	0.30	5.0	ND	ND	ND	ND	0.37	J	ND	ND	---	ND											
29-Apr-14	0.30	5.0	ND	ND	ND	ND	0.45	J	ND	ND	---	ND											
14-Oct-14	0.30	5.0	ND	ND	ND	ND	0.33	J	ND	ND	---	ND											
09-Apr-15	0.30	5.0	ND	ND	ND	1.2	J	ND	ND	ND	---	ND											
1,4-Dichlorobenzene NC 2L = 1.4 µg/L (10/23/07) NC 2B = NE (05/01/07) NC 2L = 6 µg/L (01/01/10)	Mar-98	---	5	ND	ND	ND	6	7	ND	ND	ND	---	ND										
	Sep-98	---	5	ND	ND	ND	5	5	ND	ND	ND	---	ND										
	Mar-99	---	5	ND	ND	ND	ND	5	ND	ND	ND	---	ND										
	Sep-99	---	5	ND	ND	ND	7.8	ND	ND	ND	ND	---	ND										
	May-00	---	5	ND	ND	ND	6.9	6	ND	ND	ND	---	ND										
	Oct-00	---	5	ND	ND	ND	6.1(5.7)	5	ND	ND	ND	---	ND										
	Mar-01	---	5	ND	ND	ND	ND	5.5	ND	ND	ND	---	ND										
	Oct-01	---	5	ND	ND	ND	ND	5.3	ND	ND	ND	---	ND										
	Apr-02	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	Nov-02	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	May-03	---	5	ND	ND	ND	5.0(5.1)	5.8	ND	ND	ND	---	ND										
	Nov-03	---	5	ND	ND	ND	ND	5.5(5.0)	ND	ND	ND	---	ND										
	Apr-04	---	5	ND	ND	ND	ND	6.0	ND	ND	ND	---	ND										
	Oct-04	---	---	ND	ND	ND	ND	5.3	ND	ND	ND	---	ND										
	May-05	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	Oct-05	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	23-May-06	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	09-Nov-06	---	5	ND	ND	ND	ND	ND	ND	ND	ND	---	ND										
	19-Jun-07	0.1	1.0	ND	ND	ND	2.2	4.8 (5.0)	ND	ND	2.8	---	ND										
	28-Nov-07	0.1	1.0	ND	ND	ND	2.8 (3.2)	3.2	ND	ND	1.4	---	ND										
21-Apr-08	0.1	1.0	ND	ND	ND	3.3 (3.3)	4.5	ND	ND	1.6	---	ND											
22-Dec-08	0.1	1.0	ND	ND	ND (ND)	2.1	4.4	ND	ND	1.2	---	ND											
23-Jun-09	0.1	1.0	ND	ND (3.3)	ND	1.6	4.1	ND	ND	2.3	---	ND											
15-Dec-09	0.1	1.0	ND	ND	ND	2.2 (2.0)	4.8	ND	ND	1.8	---	ND											
28-Jun-10	0.1	1.0	0.1	J	ND	ND	1.0	3.4 (3.4)	ND	ND	1.8	---	ND										
02-Nov-10	0.1	1.0	ND	ND	ND (ND)	1.6	2.9	ND	ND	1.3	---	ND											
12-Apr-11	0.33	1.0	ND	ND	ND	ND	4.6	ND	ND	ND	---	ND											
18-Oct-11	0.33	1.0	0.53	J	ND	ND	2.6	4.2	ND	ND	---	ND											
10-Apr-12	0.33	1.0	0.38	J	ND	ND	2.0	4.2	ND	ND	---	ND											
15-Oct-12	0.33	1.0	0.41	J	ND	ND	1.9	3.3	ND	ND	---	ND											
16-Apr-13	0.33	1.0	ND	ND	1.2	ND	4.6	ND	ND	ND	---	ND											
08-Oct-13	0.33	1.0	0.50	J	ND	ND	2.1	4.4	ND	ND	---	ND											
29-Apr-14	0.33	1.0	ND	ND	ND	1.6	5.1	ND	ND	---	---	ND											
14-Oct-14	0.33	1.0	ND	ND	ND	2.4	3.7	ND	ND	---	---	ND											
09-Apr-15	0.33	1.0	0.36	J	ND	ND	1.1	3.0	ND	ND	---	---	ND										
Methylene Chloride NC 2L = 5µg/L (01/01/10) NC 2B = NE (05/01/07)	16-Apr-13	0.97	1.0	2.4	B	2.7	B	2.6	B	2.7	B	2.4	B	2.5	B	2.5	B	2.5	B	---	---	3.2	
	08-Oct-13	0.97	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	1.2	
	29-Apr-14	0.97	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	14-Oct-14	0.97	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	
	09-Apr-15	0.97	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	1.3	
Styrene NC 2L = 70µg/L (01/01/10) NC 2B = NE (05/01/07)	16-Apr-13	0.26	1.0	0.78	J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08-Oct-13	0.26	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND
	29-Apr-14	0.26	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	ND
	14-Oct-14	0.26	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	ND
	09-Apr-15	0.26	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	ND
Toluene NC 2L = 600µg/L (01/01/10) NC 2B = 11 (05/01/07)	16-Apr-13	0.26	1.0	0.37	J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08-Oct-13	0.26	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND
	29-Apr-14	0.26	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	ND
	14-Oct-14	0.26	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	ND
	09-Apr-15	0.26	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	ND

**TABLE 1**

**Summary of Historically Detected Constituents**

Analyte	Sample				MW-1	MW-2	MW-3	MW-4	MW-5	Upstream	Downstream	Outfall #1	Outfall #2	Blanks		
	Collection Date	DL	QL													
Xylene (Total)	Apr-02	---	5	ND	9.3	ND	ND	ND	ND	ND	ND	ND	---	ND		
	Nov-02	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	May-03	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	Nov-03	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	Apr-04	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	Oct-04	---	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	May-05	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	Oct-05	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	23-May-06	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	09-Nov-06	---	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	19-Jun-07	0.3	4.0	ND	ND	ND	ND	ND	ND (ND)	ND	ND	ND	---	ND		
	NC 2L = 530 µg/L (10/23/07)	28-Nov-07	0.3	4.0	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	ND		
	NC 2B = NE (05/01/07)	21-Apr-08	0.3	4.0	ND	ND	ND	ND (ND)	0.4	J	ND	ND	1.3	J	---	ND
		22-Dec-08	0.3	4.0	ND	ND	ND (ND)	ND	ND	ND	ND	ND	ND	---	ND	
		23-Jun-09	0.3	4.0	ND	ND (ND)	ND	ND	ND	ND	ND	ND	1.2	J	---	ND
	15-Dec-09	0.3	5.0	ND	ND	ND	ND (ND)	ND	ND	ND	ND	1.2	J	---	ND	
NC 2L = 5,000 µg/L (01/01/10)	28-Jun-10	0.3	5.0	ND	ND	ND	ND	ND (ND)	ND	ND	ND	ND	---	ND		
	02-Nov-10	0.3	5.0	ND	ND	ND (ND)	ND	ND	ND	ND	ND	ND	---	ND		
	12-Apr-11	0.66	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	18-Oct-11	0.66	2.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND		
	10-Apr-12	0.66	2.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND		
	15-Oct-12	0.66	5.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND		
	16-Apr-13	0.66	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND		
	08-Oct-13	0.66	5.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND		
	29-Apr-14	0.66	5.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND		
	14-Oct-14	0.66	5.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND		
	09-Apr-15	0.66	5.0	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND		

**Notes:**

All concentrations are reported in micrograms per liter (mg/L).  
 Values shown in parentheses are from duplicate samples.  
 MW = Groundwater monitoring well.  
 DL = Laboratory detection limit.  
 QL = Laboratory reporting limit ( NC SWSL { or lower } From June 2007 to present).  
 B = Reported detect considered to represent blank contamination.  
 --- = Not sampled and/or not reported  
 NC 2L = North Carolina's groundwater quality Standard established under 15A NCAC 2L, .0202.  
 J = Estimate concentrations.  
 GWPS = Groundwater Protection Standards.  
 NC 2B = North Carolina Surface Water Standard.  
**Bold** values are above the NC 2L, GWPS and/or NC 2B.

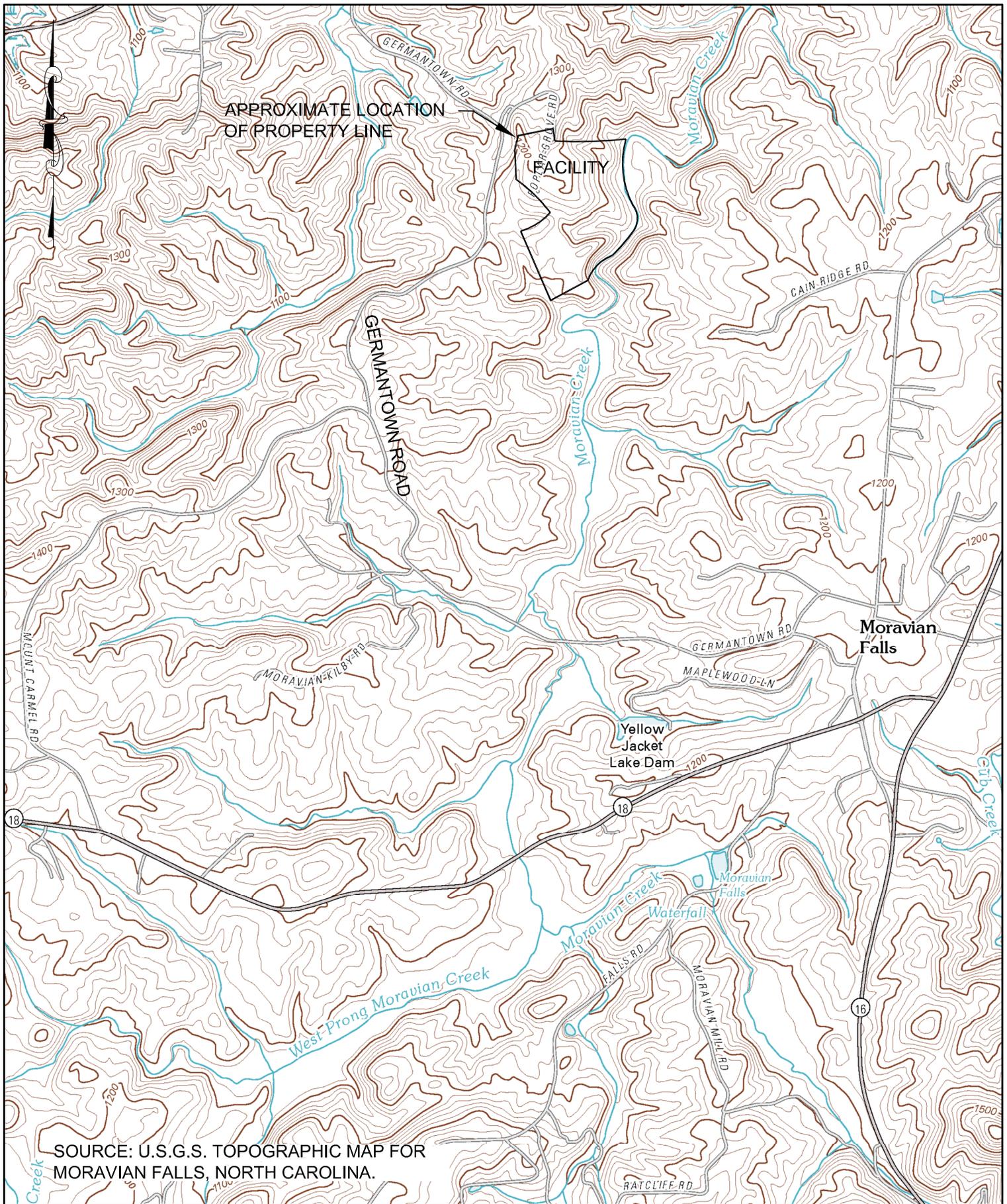
**TABLE 2****Summary of Historical Groundwater Elevations**

<b>Location</b>	<b>MW-1</b>	<b>MW-2</b>	<b>MW-3</b>	<b>MW-4</b>	<b>MW-5</b>
<b>TOC Elevation</b>	1233.00	1177.85	1059.00	1018.00	1045.75
<b>Well Depth</b>	89.69	81.54	64.00	28.21	23.47
<b>Apr-13</b>	1178.75	1131.92	1015.73	1006.25	1036.85
<b>Oct-13</b>	1182.76	1130.85	1016.00	1005.30	1036.17
<b>Apr-14</b>	1182.86	1131.85	1016.20	1006.75	1037.05
<b>Oct-14</b>	1180.81	1129.79	1015.49	1004.49	1036.40
<b>Apr-15</b>	1178.96	1130.81	1015.51	1005.07	1036.59

**Notes:**

TOC = Top of Casing

**Figure**



SOURCE: U.S.G.S. TOPOGRAPHIC MAP FOR MORAVIAN FALLS, NORTH CAROLINA.

**GERMANTOWN LANDFILL  
WILKES COUNTY, NORTH CAROLINA**

**SITE LOCATION MAP**

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

DESIGNED	DSG
DRAWN	HRW
CHECKED	DSC
APPROVED	GVB
DATE	01/16/13
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**SCALE**  
1" = 2000'

**PROJECT NO.**  
356.1301.12

**FIGURE NO.**  
1

## **Drawing**



## **Appendices**

Appendix 1

Appendix 2

Appendix 3

Laboratory Analytical Reports and Field Data Logs

Summary of Detections, Exceedances, and Field Parameters

Horizontal Groundwater Flow Velocities

## **Appendix 1**

Laboratory Analytical Reports and Field Data Logs

April 22, 2015

Mr. Alex Everhart  
Joyce Engineering-NC  
2211 W. Meadowview Road  
Suite 101  
Greensboro, NC 27407

RE: Project: Wilkes-Germantown  
Pace Project No.: 92245051

Dear Mr. Everhart:

Enclosed are the analytical results for sample(s) received by the laboratory on April 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: Mr. Van Burbach, Joyce Engineering-NC  
Alex Everhart, Joyce Engineering-NC



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Wilkes-Germantown

Pace Project No.: 92245051

---

### 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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### 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

---

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Wilkes-Germantown

Pace Project No.: 92245051

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92245051001	9701-MW1	Water	04/09/15 16:07	04/10/15 17:05
92245051002	9701-MW2	Water	04/09/15 19:55	04/10/15 17:05
92245051003	9701-MW3	Water	04/09/15 17:35	04/10/15 17:05
92245051004	9701-MW4	Water	04/09/15 19:30	04/10/15 17:05
92245051005	9701-MW5	Water	04/09/15 19:40	04/10/15 17:05
92245051006	9701-Upstream	Water	04/09/15 17:00	04/10/15 17:05
92245051007	9701-Downstream	Water	04/09/15 17:20	04/10/15 17:05
92245051008	9701-Field Blank	Water	04/09/15 19:45	04/10/15 17:05
92245051009	9701-Trip Blank	Water	04/08/15 06:30	04/10/15 17:05

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### SAMPLE ANALYTE COUNT

Project: Wilkes-Germantown  
Pace Project No.: 92245051

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92245051001	9701-MW1	EPA 6010	JMW	15	PASI-A
		EPA 8260	CAH	50	PASI-C
92245051002	9701-MW2	EPA 6010	JMW	15	PASI-A
		EPA 8260	CAH	50	PASI-C
92245051003	9701-MW3	EPA 6010	JMW	15	PASI-A
		EPA 8260	CAH	50	PASI-C
92245051004	9701-MW4	EPA 6010	JMW	15	PASI-A
		EPA 8260	CAH	50	PASI-C
92245051005	9701-MW5	EPA 6010	JMW	15	PASI-A
		EPA 8260	CAH	50	PASI-C
92245051006	9701-Upstream	EPA 6010	JMW	15	PASI-A
		EPA 8260	CAH	50	PASI-C
92245051007	9701-Downstream	EPA 6010	JMW	15	PASI-A
		EPA 8260	CAH	50	PASI-C
92245051008	9701-Field Blank	EPA 6010	JMW	15	PASI-A
		EPA 8260	CAH	50	PASI-C
92245051009	9701-Trip Blank	EPA 8260	GAW	50	PASI-C

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Wilkes-Germantown  
Pace Project No.: 92245051

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92245051001</b>	<b>9701-MW1</b>					
EPA 6010	Barium	128	ug/L	100	04/15/15 23:52	
EPA 6010	Vanadium	2.8J	ug/L	25.0	04/15/15 23:52	
EPA 6010	Zinc	5.9J	ug/L	10.0	04/15/15 23:52	
EPA 8260	Chlorobenzene	0.72J	ug/L	3.0	04/21/15 23:16	
EPA 8260	1,4-Dichlorobenzene	0.36J	ug/L	1.0	04/21/15 23:16	
<b>92245051002</b>	<b>9701-MW2</b>					
EPA 6010	Barium	8.0J	ug/L	100	04/15/15 23:55	
EPA 6010	Copper	4.0J	ug/L	10.0	04/15/15 23:55	
EPA 6010	Zinc	7.4J	ug/L	10.0	04/15/15 23:55	
<b>92245051003</b>	<b>9701-MW3</b>					
EPA 6010	Barium	8.6J	ug/L	100	04/16/15 00:07	
<b>92245051004</b>	<b>9701-MW4</b>					
EPA 6010	Barium	70.6J	ug/L	100	04/16/15 00:10	
EPA 6010	Chromium	4.0J	ug/L	10.0	04/16/15 00:10	
EPA 6010	Cobalt	9.8J	ug/L	10.0	04/16/15 00:10	
EPA 6010	Copper	17.6	ug/L	10.0	04/16/15 00:10	
EPA 6010	Lead	4.6J	ug/L	10.0	04/16/15 00:10	
EPA 6010	Nickel	3.6J	ug/L	50.0	04/16/15 00:10	
EPA 6010	Vanadium	11.2J	ug/L	25.0	04/16/15 00:10	
EPA 6010	Zinc	6.1J	ug/L	10.0	04/16/15 00:10	
EPA 8260	Chlorobenzene	1.9J	ug/L	3.0	04/22/15 00:11	
EPA 8260	1,2-Dichlorobenzene	1.2J	ug/L	5.0	04/22/15 00:11	
EPA 8260	1,4-Dichlorobenzene	1.1	ug/L	1.0	04/22/15 00:11	
<b>92245051005</b>	<b>9701-MW5</b>					
EPA 6010	Barium	327	ug/L	100	04/16/15 00:13	
EPA 6010	Chromium	2.7J	ug/L	10.0	04/16/15 00:13	
EPA 6010	Cobalt	13.7	ug/L	10.0	04/16/15 00:13	
EPA 6010	Copper	6.0J	ug/L	10.0	04/16/15 00:13	
EPA 6010	Lead	4.4J	ug/L	10.0	04/16/15 00:13	
EPA 6010	Nickel	8.4J	ug/L	50.0	04/16/15 00:13	
EPA 6010	Vanadium	8.9J	ug/L	25.0	04/16/15 00:13	
EPA 6010	Zinc	5.5J	ug/L	10.0	04/16/15 00:13	
EPA 8260	Benzene	0.66J	ug/L	1.0	04/22/15 00:29	
EPA 8260	Chlorobenzene	6.7	ug/L	3.0	04/22/15 00:29	
EPA 8260	1,4-Dichlorobenzene	3.0	ug/L	1.0	04/22/15 00:29	
<b>92245051006</b>	<b>9701-Upstream</b>					
EPA 6010	Barium	18.3J	ug/L	100	04/16/15 00:16	
<b>92245051007</b>	<b>9701-Downstream</b>					
EPA 6010	Barium	54.7J	ug/L	100	04/16/15 00:19	
EPA 6010	Chromium	5.7J	ug/L	10.0	04/16/15 00:19	
EPA 6010	Copper	4.6J	ug/L	10.0	04/16/15 00:19	
EPA 6010	Vanadium	5.3J	ug/L	25.0	04/16/15 00:19	
EPA 6010	Zinc	16.9	ug/L	10.0	04/16/15 00:19	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Wilkes-Germantown

Pace Project No.: 92245051

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92245051008</b>	<b>9701-Field Blank</b>					
EPA 6010	Copper	3.2J	ug/L	10.0	04/16/15 00:22	
EPA 8260	Methylene Chloride	1.3	ug/L	1.0	04/22/15 01:24	L1

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-MW1**      **Lab ID: 92245051001**      Collected: 04/09/15 16:07      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010 ICP Groundwater</b>		Analytical Method: EPA 6010      Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	3.8	1	04/14/15 14:15	04/15/15 23:52	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:52	7440-38-2	
Barium	<b>128</b>	ug/L	100	2.5	1	04/14/15 14:15	04/15/15 23:52	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/15/15 23:52	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/15/15 23:52	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:52	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:52	7440-48-4	
Copper	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:52	7440-50-8	
Lead	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:52	7439-92-1	
Nickel	ND	ug/L	50.0	2.5	1	04/14/15 14:15	04/15/15 23:52	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/15/15 23:52	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:52	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	04/14/15 14:15	04/15/15 23:52	7440-28-0	
Vanadium	<b>2.8J</b>	ug/L	25.0	2.5	1	04/14/15 14:15	04/15/15 23:52	7440-62-2	
Zinc	<b>5.9J</b>	ug/L	10.0	5.0	1	04/14/15 14:15	04/15/15 23:52	7440-66-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	10.0	1		04/21/15 23:16	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		04/21/15 23:16	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		04/21/15 23:16	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		04/21/15 23:16	74-97-5	L3
Bromodichloromethane	ND	ug/L	1.0	0.18	1		04/21/15 23:16	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		04/21/15 23:16	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		04/21/15 23:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		04/21/15 23:16	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		04/21/15 23:16	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		04/21/15 23:16	56-23-5	
Chlorobenzene	<b>0.72J</b>	ug/L	3.0	0.23	1		04/21/15 23:16	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		04/21/15 23:16	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		04/21/15 23:16	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		04/21/15 23:16	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		04/21/15 23:16	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		04/21/15 23:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		04/21/15 23:16	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		04/21/15 23:16	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		04/21/15 23:16	95-50-1	
1,4-Dichlorobenzene	<b>0.36J</b>	ug/L	1.0	0.33	1		04/21/15 23:16	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		04/21/15 23:16	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		04/21/15 23:16	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		04/21/15 23:16	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		04/21/15 23:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		04/21/15 23:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		04/21/15 23:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		04/21/15 23:16	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		04/21/15 23:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		04/21/15 23:16	10061-02-6	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-MW1**      **Lab ID: 92245051001**      Collected: 04/09/15 16:07      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/21/15 23:16	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		04/21/15 23:16	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		04/21/15 23:16	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		04/21/15 23:16	75-09-2	L3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		04/21/15 23:16	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		04/21/15 23:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		04/21/15 23:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		04/21/15 23:16	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		04/21/15 23:16	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		04/21/15 23:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		04/21/15 23:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		04/21/15 23:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		04/21/15 23:16	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		04/21/15 23:16	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		04/21/15 23:16	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		04/21/15 23:16	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		04/21/15 23:16	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		04/21/15 23:16	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	110	%	70-130		1		04/21/15 23:16	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		04/21/15 23:16	17060-07-0	
Toluene-d8 (S)	112	%	70-130		1		04/21/15 23:16	2037-26-5	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-MW2**      **Lab ID: 92245051002**      Collected: 04/09/15 19:55      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010 ICP Groundwater</b>		Analytical Method: EPA 6010      Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	3.8	1	04/14/15 14:15	04/15/15 23:55	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:55	7440-38-2	
Barium	<b>8.0J</b>	ug/L	100	2.5	1	04/14/15 14:15	04/15/15 23:55	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/15/15 23:55	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/15/15 23:55	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:55	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:55	7440-48-4	
Copper	<b>4.0J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:55	7440-50-8	
Lead	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:55	7439-92-1	
Nickel	ND	ug/L	50.0	2.5	1	04/14/15 14:15	04/15/15 23:55	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/15/15 23:55	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/15/15 23:55	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	04/14/15 14:15	04/15/15 23:55	7440-28-0	
Vanadium	ND	ug/L	25.0	2.5	1	04/14/15 14:15	04/15/15 23:55	7440-62-2	
Zinc	<b>7.4J</b>	ug/L	10.0	5.0	1	04/14/15 14:15	04/15/15 23:55	7440-66-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	10.0	1		04/21/15 23:34	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		04/21/15 23:34	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		04/21/15 23:34	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		04/21/15 23:34	74-97-5	L3
Bromodichloromethane	ND	ug/L	1.0	0.18	1		04/21/15 23:34	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		04/21/15 23:34	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		04/21/15 23:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		04/21/15 23:34	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		04/21/15 23:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		04/21/15 23:34	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		04/21/15 23:34	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		04/21/15 23:34	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		04/21/15 23:34	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		04/21/15 23:34	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		04/21/15 23:34	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		04/21/15 23:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		04/21/15 23:34	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		04/21/15 23:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		04/21/15 23:34	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		04/21/15 23:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		04/21/15 23:34	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		04/21/15 23:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		04/21/15 23:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		04/21/15 23:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		04/21/15 23:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		04/21/15 23:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		04/21/15 23:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		04/21/15 23:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		04/21/15 23:34	10061-02-6	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-MW2**      **Lab ID: 92245051002**      Collected: 04/09/15 19:55      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/21/15 23:34	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		04/21/15 23:34	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		04/21/15 23:34	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		04/21/15 23:34	75-09-2	L3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		04/21/15 23:34	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		04/21/15 23:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		04/21/15 23:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		04/21/15 23:34	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		04/21/15 23:34	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		04/21/15 23:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		04/21/15 23:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		04/21/15 23:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		04/21/15 23:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		04/21/15 23:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		04/21/15 23:34	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		04/21/15 23:34	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		04/21/15 23:34	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		04/21/15 23:34	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	109	%	70-130		1		04/21/15 23:34	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		04/21/15 23:34	17060-07-0	
Toluene-d8 (S)	110	%	70-130		1		04/21/15 23:34	2037-26-5	

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## ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-MW3**      **Lab ID: 92245051003**      Collected: 04/09/15 17:35      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010 ICP Groundwater</b>		Analytical Method: EPA 6010      Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	3.8	1	04/14/15 14:15	04/16/15 00:07	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:07	7440-38-2	
Barium	<b>8.6J</b>	ug/L	100	2.5	1	04/14/15 14:15	04/16/15 00:07	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:07	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:07	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:07	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:07	7440-48-4	
Copper	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:07	7440-50-8	
Lead	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:07	7439-92-1	
Nickel	ND	ug/L	50.0	2.5	1	04/14/15 14:15	04/16/15 00:07	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:07	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:07	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	04/14/15 14:15	04/16/15 00:07	7440-28-0	
Vanadium	ND	ug/L	25.0	2.5	1	04/14/15 14:15	04/16/15 00:07	7440-62-2	
Zinc	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:07	7440-66-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	10.0	1		04/21/15 23:52	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		04/21/15 23:52	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		04/21/15 23:52	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		04/21/15 23:52	74-97-5	L3
Bromodichloromethane	ND	ug/L	1.0	0.18	1		04/21/15 23:52	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		04/21/15 23:52	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		04/21/15 23:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		04/21/15 23:52	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		04/21/15 23:52	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		04/21/15 23:52	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		04/21/15 23:52	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		04/21/15 23:52	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		04/21/15 23:52	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		04/21/15 23:52	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		04/21/15 23:52	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		04/21/15 23:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		04/21/15 23:52	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		04/21/15 23:52	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		04/21/15 23:52	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		04/21/15 23:52	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		04/21/15 23:52	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		04/21/15 23:52	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		04/21/15 23:52	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		04/21/15 23:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		04/21/15 23:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		04/21/15 23:52	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		04/21/15 23:52	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		04/21/15 23:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		04/21/15 23:52	10061-02-6	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-MW3**      **Lab ID: 92245051003**      Collected: 04/09/15 17:35      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/21/15 23:52	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		04/21/15 23:52	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		04/21/15 23:52	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		04/21/15 23:52	75-09-2	L3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		04/21/15 23:52	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		04/21/15 23:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		04/21/15 23:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		04/21/15 23:52	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		04/21/15 23:52	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		04/21/15 23:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		04/21/15 23:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		04/21/15 23:52	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		04/21/15 23:52	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		04/21/15 23:52	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		04/21/15 23:52	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		04/21/15 23:52	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		04/21/15 23:52	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		04/21/15 23:52	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	110	%	70-130		1		04/21/15 23:52	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		04/21/15 23:52	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		04/21/15 23:52	2037-26-5	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-MW4**      **Lab ID: 92245051004**      Collected: 04/09/15 19:30      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010 ICP Groundwater</b>		Analytical Method: EPA 6010      Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	3.8	1	04/14/15 14:15	04/16/15 00:10	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:10	7440-38-2	
Barium	<b>70.6J</b>	ug/L	100	2.5	1	04/14/15 14:15	04/16/15 00:10	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:10	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:10	7440-43-9	
Chromium	<b>4.0J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:10	7440-47-3	
Cobalt	<b>9.8J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:10	7440-48-4	
Copper	<b>17.6</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:10	7440-50-8	
Lead	<b>4.6J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:10	7439-92-1	
Nickel	<b>3.6J</b>	ug/L	50.0	2.5	1	04/14/15 14:15	04/16/15 00:10	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:10	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:10	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	04/14/15 14:15	04/16/15 00:10	7440-28-0	
Vanadium	<b>11.2J</b>	ug/L	25.0	2.5	1	04/14/15 14:15	04/16/15 00:10	7440-62-2	
Zinc	<b>6.1J</b>	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:10	7440-66-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	10.0	1		04/22/15 00:11	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		04/22/15 00:11	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		04/22/15 00:11	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		04/22/15 00:11	74-97-5	L3
Bromodichloromethane	ND	ug/L	1.0	0.18	1		04/22/15 00:11	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		04/22/15 00:11	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		04/22/15 00:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		04/22/15 00:11	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		04/22/15 00:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		04/22/15 00:11	56-23-5	
Chlorobenzene	<b>1.9J</b>	ug/L	3.0	0.23	1		04/22/15 00:11	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		04/22/15 00:11	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		04/22/15 00:11	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		04/22/15 00:11	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		04/22/15 00:11	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		04/22/15 00:11	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		04/22/15 00:11	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		04/22/15 00:11	74-95-3	
1,2-Dichlorobenzene	<b>1.2J</b>	ug/L	5.0	0.30	1		04/22/15 00:11	95-50-1	
1,4-Dichlorobenzene	<b>1.1</b>	ug/L	1.0	0.33	1		04/22/15 00:11	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		04/22/15 00:11	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		04/22/15 00:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		04/22/15 00:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		04/22/15 00:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		04/22/15 00:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		04/22/15 00:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		04/22/15 00:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		04/22/15 00:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		04/22/15 00:11	10061-02-6	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-MW4**      **Lab ID: 92245051004**      Collected: 04/09/15 19:30      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/22/15 00:11	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		04/22/15 00:11	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		04/22/15 00:11	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		04/22/15 00:11	75-09-2	L3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		04/22/15 00:11	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		04/22/15 00:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		04/22/15 00:11	630-20-6	
1,1,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		04/22/15 00:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		04/22/15 00:11	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		04/22/15 00:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		04/22/15 00:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		04/22/15 00:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		04/22/15 00:11	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		04/22/15 00:11	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		04/22/15 00:11	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		04/22/15 00:11	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		04/22/15 00:11	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		04/22/15 00:11	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	111	%	70-130		1		04/22/15 00:11	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		04/22/15 00:11	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		04/22/15 00:11	2037-26-5	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown  
Pace Project No.: 92245051

**Sample: 9701-MW5**      **Lab ID: 92245051005**      Collected: 04/09/15 19:40      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010 ICP Groundwater</b>			Analytical Method: EPA 6010    Preparation Method: EPA 3010						
Antimony	ND	ug/L	6.0	3.8	1	04/14/15 14:15	04/16/15 00:13	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:13	7440-38-2	
Barium	<b>327</b>	ug/L	100	2.5	1	04/14/15 14:15	04/16/15 00:13	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:13	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:13	7440-43-9	
Chromium	<b>2.7J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:13	7440-47-3	
Cobalt	<b>13.7</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:13	7440-48-4	
Copper	<b>6.0J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:13	7440-50-8	
Lead	<b>4.4J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:13	7439-92-1	
Nickel	<b>8.4J</b>	ug/L	50.0	2.5	1	04/14/15 14:15	04/16/15 00:13	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:13	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:13	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	04/14/15 14:15	04/16/15 00:13	7440-28-0	
Vanadium	<b>8.9J</b>	ug/L	25.0	2.5	1	04/14/15 14:15	04/16/15 00:13	7440-62-2	
Zinc	<b>5.5J</b>	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:13	7440-66-6	
<b>8260 MSV Low Level Landfill</b>			Analytical Method: EPA 8260						
Acetone	ND	ug/L	100	10.0	1		04/22/15 00:29	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		04/22/15 00:29	107-13-1	
Benzene	<b>0.66J</b>	ug/L	1.0	0.25	1		04/22/15 00:29	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		04/22/15 00:29	74-97-5	L3
Bromodichloromethane	ND	ug/L	1.0	0.18	1		04/22/15 00:29	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		04/22/15 00:29	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		04/22/15 00:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		04/22/15 00:29	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		04/22/15 00:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		04/22/15 00:29	56-23-5	
Chlorobenzene	<b>6.7</b>	ug/L	3.0	0.23	1		04/22/15 00:29	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		04/22/15 00:29	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		04/22/15 00:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		04/22/15 00:29	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		04/22/15 00:29	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		04/22/15 00:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		04/22/15 00:29	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		04/22/15 00:29	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		04/22/15 00:29	95-50-1	
1,4-Dichlorobenzene	<b>3.0</b>	ug/L	1.0	0.33	1		04/22/15 00:29	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		04/22/15 00:29	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		04/22/15 00:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		04/22/15 00:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		04/22/15 00:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		04/22/15 00:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		04/22/15 00:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		04/22/15 00:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		04/22/15 00:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		04/22/15 00:29	10061-02-6	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-MW5**      **Lab ID: 92245051005**      Collected: 04/09/15 19:40      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/22/15 00:29	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		04/22/15 00:29	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		04/22/15 00:29	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		04/22/15 00:29	75-09-2	L3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		04/22/15 00:29	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		04/22/15 00:29	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		04/22/15 00:29	630-20-6	
1,1,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		04/22/15 00:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		04/22/15 00:29	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		04/22/15 00:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		04/22/15 00:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		04/22/15 00:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		04/22/15 00:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		04/22/15 00:29	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		04/22/15 00:29	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		04/22/15 00:29	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		04/22/15 00:29	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		04/22/15 00:29	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	108	%	70-130		1		04/22/15 00:29	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		04/22/15 00:29	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		04/22/15 00:29	2037-26-5	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-Upstream**      **Lab ID: 92245051006**      Collected: 04/09/15 17:00      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010 ICP Groundwater</b>		Analytical Method: EPA 6010      Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	3.8	1	04/14/15 14:15	04/16/15 00:16	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:16	7440-38-2	
Barium	<b>18.3J</b>	ug/L	100	2.5	1	04/14/15 14:15	04/16/15 00:16	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:16	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:16	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:16	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:16	7440-48-4	
Copper	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:16	7440-50-8	
Lead	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:16	7439-92-1	
Nickel	ND	ug/L	50.0	2.5	1	04/14/15 14:15	04/16/15 00:16	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:16	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:16	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	04/14/15 14:15	04/16/15 00:16	7440-28-0	
Vanadium	ND	ug/L	25.0	2.5	1	04/14/15 14:15	04/16/15 00:16	7440-62-2	
Zinc	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:16	7440-66-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	10.0	1		04/22/15 00:47	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		04/22/15 00:47	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		04/22/15 00:47	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		04/22/15 00:47	74-97-5	L3
Bromodichloromethane	ND	ug/L	1.0	0.18	1		04/22/15 00:47	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		04/22/15 00:47	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		04/22/15 00:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		04/22/15 00:47	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		04/22/15 00:47	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		04/22/15 00:47	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		04/22/15 00:47	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		04/22/15 00:47	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		04/22/15 00:47	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		04/22/15 00:47	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		04/22/15 00:47	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		04/22/15 00:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		04/22/15 00:47	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		04/22/15 00:47	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		04/22/15 00:47	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		04/22/15 00:47	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		04/22/15 00:47	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		04/22/15 00:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		04/22/15 00:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		04/22/15 00:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		04/22/15 00:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		04/22/15 00:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		04/22/15 00:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		04/22/15 00:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		04/22/15 00:47	10061-02-6	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-Upstream**      **Lab ID: 92245051006**      Collected: 04/09/15 17:00      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/22/15 00:47	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		04/22/15 00:47	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		04/22/15 00:47	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		04/22/15 00:47	75-09-2	L3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		04/22/15 00:47	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		04/22/15 00:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		04/22/15 00:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		04/22/15 00:47	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		04/22/15 00:47	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		04/22/15 00:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		04/22/15 00:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		04/22/15 00:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		04/22/15 00:47	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		04/22/15 00:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		04/22/15 00:47	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		04/22/15 00:47	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		04/22/15 00:47	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		04/22/15 00:47	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	108	%	70-130		1		04/22/15 00:47	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		04/22/15 00:47	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		04/22/15 00:47	2037-26-5	

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## ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-Downstream**      **Lab ID: 92245051007**      Collected: 04/09/15 17:20      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010 ICP Groundwater</b>		Analytical Method: EPA 6010      Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	3.8	1	04/14/15 14:15	04/16/15 00:19	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:19	7440-38-2	
Barium	<b>54.7J</b>	ug/L	100	2.5	1	04/14/15 14:15	04/16/15 00:19	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:19	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:19	7440-43-9	
Chromium	<b>5.7J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:19	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:19	7440-48-4	
Copper	<b>4.6J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:19	7440-50-8	
Lead	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:19	7439-92-1	
Nickel	ND	ug/L	50.0	2.5	1	04/14/15 14:15	04/16/15 00:19	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:19	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:19	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	04/14/15 14:15	04/16/15 00:19	7440-28-0	
Vanadium	<b>5.3J</b>	ug/L	25.0	2.5	1	04/14/15 14:15	04/16/15 00:19	7440-62-2	
Zinc	<b>16.9</b>	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:19	7440-66-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	10.0	1		04/22/15 01:06	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		04/22/15 01:06	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		04/22/15 01:06	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		04/22/15 01:06	74-97-5	L3
Bromodichloromethane	ND	ug/L	1.0	0.18	1		04/22/15 01:06	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		04/22/15 01:06	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		04/22/15 01:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		04/22/15 01:06	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		04/22/15 01:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		04/22/15 01:06	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		04/22/15 01:06	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		04/22/15 01:06	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		04/22/15 01:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		04/22/15 01:06	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		04/22/15 01:06	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		04/22/15 01:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		04/22/15 01:06	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		04/22/15 01:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		04/22/15 01:06	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		04/22/15 01:06	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		04/22/15 01:06	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		04/22/15 01:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		04/22/15 01:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		04/22/15 01:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		04/22/15 01:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		04/22/15 01:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		04/22/15 01:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		04/22/15 01:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		04/22/15 01:06	10061-02-6	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-Downstream**      **Lab ID: 92245051007**      Collected: 04/09/15 17:20      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/22/15 01:06	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		04/22/15 01:06	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		04/22/15 01:06	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		04/22/15 01:06	75-09-2	L3
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		04/22/15 01:06	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		04/22/15 01:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		04/22/15 01:06	630-20-6	
1,1,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		04/22/15 01:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		04/22/15 01:06	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		04/22/15 01:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		04/22/15 01:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		04/22/15 01:06	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		04/22/15 01:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		04/22/15 01:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		04/22/15 01:06	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		04/22/15 01:06	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		04/22/15 01:06	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		04/22/15 01:06	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	113	%	70-130		1		04/22/15 01:06	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		04/22/15 01:06	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		04/22/15 01:06	2037-26-5	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown  
Pace Project No.: 92245051

**Sample: 9701-Field Blank**      **Lab ID: 92245051008**      Collected: 04/09/15 19:45      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010 ICP Groundwater</b>		Analytical Method: EPA 6010      Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	3.8	1	04/14/15 14:15	04/16/15 00:22	7440-36-0	
Arsenic	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:22	7440-38-2	
Barium	ND	ug/L	100	2.5	1	04/14/15 14:15	04/16/15 00:22	7440-39-3	
Beryllium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:22	7440-41-7	
Cadmium	ND	ug/L	1.0	0.50	1	04/14/15 14:15	04/16/15 00:22	7440-43-9	
Chromium	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:22	7440-47-3	
Cobalt	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:22	7440-48-4	
Copper	<b>3.2J</b>	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:22	7440-50-8	
Lead	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:22	7439-92-1	
Nickel	ND	ug/L	50.0	2.5	1	04/14/15 14:15	04/16/15 00:22	7440-02-0	
Selenium	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:22	7782-49-2	
Silver	ND	ug/L	10.0	2.5	1	04/14/15 14:15	04/16/15 00:22	7440-22-4	
Thallium	ND	ug/L	5.5	5.0	1	04/14/15 14:15	04/16/15 00:22	7440-28-0	
Vanadium	ND	ug/L	25.0	2.5	1	04/14/15 14:15	04/16/15 00:22	7440-62-2	
Zinc	ND	ug/L	10.0	5.0	1	04/14/15 14:15	04/16/15 00:22	7440-66-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	10.0	1		04/22/15 01:24	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		04/22/15 01:24	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		04/22/15 01:24	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		04/22/15 01:24	74-97-5	L3
Bromodichloromethane	ND	ug/L	1.0	0.18	1		04/22/15 01:24	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		04/22/15 01:24	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		04/22/15 01:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		04/22/15 01:24	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		04/22/15 01:24	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		04/22/15 01:24	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		04/22/15 01:24	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		04/22/15 01:24	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		04/22/15 01:24	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		04/22/15 01:24	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		04/22/15 01:24	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		04/22/15 01:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		04/22/15 01:24	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		04/22/15 01:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		04/22/15 01:24	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		04/22/15 01:24	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		04/22/15 01:24	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		04/22/15 01:24	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		04/22/15 01:24	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		04/22/15 01:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		04/22/15 01:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		04/22/15 01:24	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		04/22/15 01:24	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		04/22/15 01:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		04/22/15 01:24	10061-02-6	

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### ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-Field Blank**      **Lab ID: 92245051008**      Collected: 04/09/15 19:45      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/22/15 01:24	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		04/22/15 01:24	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		04/22/15 01:24	74-88-4	
Methylene Chloride	<b>1.3</b>	ug/L	1.0	0.97	1		04/22/15 01:24	75-09-2	L1
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		04/22/15 01:24	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		04/22/15 01:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		04/22/15 01:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		04/22/15 01:24	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		04/22/15 01:24	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		04/22/15 01:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		04/22/15 01:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		04/22/15 01:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		04/22/15 01:24	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		04/22/15 01:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		04/22/15 01:24	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		04/22/15 01:24	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		04/22/15 01:24	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		04/22/15 01:24	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	111	%	70-130		1		04/22/15 01:24	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		04/22/15 01:24	17060-07-0	
Toluene-d8 (S)	109	%	70-130		1		04/22/15 01:24	2037-26-5	

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## ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

**Sample: 9701-Trip Blank**      **Lab ID: 92245051009**      Collected: 04/08/15 06:30      Received: 04/10/15 17:05      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	10.0	1		04/18/15 12:08	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		04/18/15 12:08	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		04/18/15 12:08	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		04/18/15 12:08	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		04/18/15 12:08	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		04/18/15 12:08	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		04/18/15 12:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		04/18/15 12:08	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		04/18/15 12:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		04/18/15 12:08	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		04/18/15 12:08	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		04/18/15 12:08	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		04/18/15 12:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		04/18/15 12:08	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		04/18/15 12:08	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		04/18/15 12:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		04/18/15 12:08	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		04/18/15 12:08	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		04/18/15 12:08	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		04/18/15 12:08	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		04/18/15 12:08	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		04/18/15 12:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		04/18/15 12:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		04/18/15 12:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		04/18/15 12:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		04/18/15 12:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		04/18/15 12:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		04/18/15 12:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		04/18/15 12:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/18/15 12:08	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		04/18/15 12:08	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		04/18/15 12:08	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		04/18/15 12:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		04/18/15 12:08	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		04/18/15 12:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		04/18/15 12:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		04/18/15 12:08	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		04/18/15 12:08	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		04/18/15 12:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		04/18/15 12:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		04/18/15 12:08	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		04/18/15 12:08	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		04/18/15 12:08	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		04/18/15 12:08	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		04/18/15 12:08	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		04/18/15 12:08	75-01-4	

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## ANALYTICAL RESULTS

Project: Wilkes-Germantown

Pace Project No.: 92245051

Sample: 9701-Trip Blank		Lab ID: 92245051009		Collected: 04/08/15 06:30	Received: 04/10/15 17:05	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Xylene (Total)	ND	ug/L	5.0	0.66	1		04/18/15 12:08	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	70-130		1		04/18/15 12:08	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		04/18/15 12:08	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		04/18/15 12:08	2037-26-5	

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown

Pace Project No.: 92245051

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1433762 1433763											
Parameter	Units	92245050001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Antimony	ug/L	ND	500	500	472	489	94	98	75-125	4	25
Arsenic	ug/L	ND	500	500	461	478	92	96	75-125	4	25
Barium	ug/L	31.7J	500	500	527	548	99	103	75-125	4	25
Beryllium	ug/L	ND	500	500	479	498	96	100	75-125	4	25
Cadmium	ug/L	ND	500	500	484	498	97	100	75-125	3	25
Chromium	ug/L	ND	500	500	508	523	102	105	75-125	3	25
Cobalt	ug/L	71.1	500	500	562	582	98	102	75-125	4	25
Copper	ug/L	7.4J	500	500	493	511	97	101	75-125	4	25
Lead	ug/L	2.6J	500	500	491	505	98	100	75-125	3	25
Nickel	ug/L	3.0J	500	500	470	485	93	96	75-125	3	25
Selenium	ug/L	ND	500	500	453	471	91	94	75-125	4	25
Silver	ug/L	ND	250	250	242	249	96	99	75-125	3	25
Thallium	ug/L	ND	500	500	442	457	88	91	75-125	3	25
Vanadium	ug/L	4.8J	500	500	482	498	95	99	75-125	3	25
Zinc	ug/L	8.8J	500	500	458	473	90	93	75-125	3	25

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown  
Pace Project No.: 92245051

QC Batch: MSV/31256 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill  
Associated Lab Samples: 92245051009

METHOD BLANK: 1438201 Matrix: Water  
Associated Lab Samples: 92245051009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	04/18/15 09:20	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/18/15 09:20	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	04/18/15 09:20	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/18/15 09:20	
1,1-Dichloroethane	ug/L	ND	5.0	04/18/15 09:20	
1,1-Dichloroethene	ug/L	ND	5.0	04/18/15 09:20	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/18/15 09:20	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	04/18/15 09:20	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/18/15 09:20	
1,2-Dichlorobenzene	ug/L	ND	5.0	04/18/15 09:20	
1,2-Dichloroethane	ug/L	ND	1.0	04/18/15 09:20	
1,2-Dichloropropane	ug/L	ND	1.0	04/18/15 09:20	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/18/15 09:20	
2-Butanone (MEK)	ug/L	ND	100	04/18/15 09:20	
2-Hexanone	ug/L	ND	50.0	04/18/15 09:20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	04/18/15 09:20	
Acetone	ug/L	ND	100	04/18/15 09:20	
Acrylonitrile	ug/L	ND	200	04/18/15 09:20	
Benzene	ug/L	ND	1.0	04/18/15 09:20	
Bromochloromethane	ug/L	ND	3.0	04/18/15 09:20	
Bromodichloromethane	ug/L	ND	1.0	04/18/15 09:20	
Bromoform	ug/L	ND	3.0	04/18/15 09:20	
Bromomethane	ug/L	ND	10.0	04/18/15 09:20	
Carbon disulfide	ug/L	ND	100	04/18/15 09:20	
Carbon tetrachloride	ug/L	ND	1.0	04/18/15 09:20	
Chlorobenzene	ug/L	ND	3.0	04/18/15 09:20	
Chloroethane	ug/L	ND	10.0	04/18/15 09:20	
Chloroform	ug/L	ND	5.0	04/18/15 09:20	
Chloromethane	ug/L	ND	1.0	04/18/15 09:20	
cis-1,2-Dichloroethene	ug/L	ND	5.0	04/18/15 09:20	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/18/15 09:20	
Dibromochloromethane	ug/L	ND	3.0	04/18/15 09:20	
Dibromomethane	ug/L	ND	10.0	04/18/15 09:20	
Ethylbenzene	ug/L	ND	1.0	04/18/15 09:20	
Iodomethane	ug/L	ND	10.0	04/18/15 09:20	
Methylene Chloride	ug/L	ND	1.0	04/18/15 09:20	
Styrene	ug/L	ND	1.0	04/18/15 09:20	
Tetrachloroethene	ug/L	ND	1.0	04/18/15 09:20	
Toluene	ug/L	ND	1.0	04/18/15 09:20	
trans-1,2-Dichloroethene	ug/L	ND	5.0	04/18/15 09:20	
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/18/15 09:20	

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown  
Pace Project No.: 92245051

METHOD BLANK: 1438201

Matrix: Water

Associated Lab Samples: 92245051009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,4-Dichloro-2-butene	ug/L	ND	100	04/18/15 09:20	
Trichloroethene	ug/L	ND	1.0	04/18/15 09:20	
Trichlorofluoromethane	ug/L	ND	1.0	04/18/15 09:20	
Vinyl acetate	ug/L	ND	50.0	04/18/15 09:20	
Vinyl chloride	ug/L	ND	1.0	04/18/15 09:20	
Xylene (Total)	ug/L	ND	5.0	04/18/15 09:20	
1,2-Dichloroethane-d4 (S)	%	102	70-130	04/18/15 09:20	
4-Bromofluorobenzene (S)	%	101	70-130	04/18/15 09:20	
Toluene-d8 (S)	%	101	70-130	04/18/15 09:20	

LABORATORY CONTROL SAMPLE: 1438202

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.7	101	80-125	
1,1,1-Trichloroethane	ug/L	50	50.1	100	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	50.0	100	79-124	
1,1,2-Trichloroethane	ug/L	50	51.5	103	85-125	
1,1-Dichloroethane	ug/L	50	50.9	102	73-126	
1,1-Dichloroethene	ug/L	50	47.0	94	66-135	
1,2,3-Trichloropropane	ug/L	50	48.4	97	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	50.4	101	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	53.6	107	83-124	
1,2-Dichlorobenzene	ug/L	50	51.6	103	80-133	
1,2-Dichloroethane	ug/L	50	47.1	94	67-128	
1,2-Dichloropropane	ug/L	50	51.4	103	75-132	
1,4-Dichlorobenzene	ug/L	50	51.5	103	78-130	
2-Butanone (MEK)	ug/L	100	89.8J	90	61-144	
2-Hexanone	ug/L	100	103	103	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	72-135	
Acetone	ug/L	100	96.9J	97	48-146	
Acrylonitrile	ug/L	250	242	97	40-160	
Benzene	ug/L	50	52.1	104	80-125	
Bromochloromethane	ug/L	50	58.8	118	71-125	
Bromodichloromethane	ug/L	50	48.7	97	78-124	
Bromoform	ug/L	50	48.1	96	71-128	
Bromomethane	ug/L	50	50.9	102	40-160	
Carbon disulfide	ug/L	50	48.1J	96	50-160	
Carbon tetrachloride	ug/L	50	52.2	104	69-131	
Chlorobenzene	ug/L	50	51.5	103	81-122	
Chloroethane	ug/L	50	55.6	111	39-148	
Chloroform	ug/L	50	45.6	91	73-127	
Chloromethane	ug/L	50	57.3	115	44-146	
cis-1,2-Dichloroethene	ug/L	50	49.8	100	74-124	
cis-1,3-Dichloropropene	ug/L	50	54.1	108	72-132	

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown

Pace Project No.: 92245051

LABORATORY CONTROL SAMPLE: 1438202

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	50	50.1	100	78-125	
Dibromomethane	ug/L	50	53.5	107	82-120	
Ethylbenzene	ug/L	50	49.9	100	79-121	
Iodomethane	ug/L	100	90.9	91	39-154	
Methylene Chloride	ug/L	50	62.5	125	64-133	
Styrene	ug/L	50	51.7	103	84-126	
Tetrachloroethene	ug/L	50	49.2	98	78-122	
Toluene	ug/L	50	50.4	101	80-121	
trans-1,2-Dichloroethene	ug/L	50	46.0	92	71-127	
trans-1,3-Dichloropropene	ug/L	50	53.1	106	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	40.8J	82	40-160	
Trichloroethene	ug/L	50	49.8	100	78-122	
Trichlorofluoromethane	ug/L	50	56.9	114	53-137	
Vinyl acetate	ug/L	100	99.4	99	40-160	
Vinyl chloride	ug/L	50	47.7	95	58-137	
Xylene (Total)	ug/L	150	155	104	81-126	
1,2-Dichloroethane-d4 (S)	%			91	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE SAMPLE: 1438204

Parameter	Units	92244337021 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	21.2	106	70-130	
1,1,1-Trichloroethane	ug/L	ND	20	23.5	117	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	21.5	108	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	20.5	103	70-130	
1,1-Dichloroethane	ug/L	ND	20	23.2	116	70-130	
1,1-Dichloroethene	ug/L	ND	20	22.0	110	70-166	
1,2,3-Trichloropropane	ug/L	ND	20	19.9	99	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	21.0	105	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	22.2	111	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	21.8	109	70-130	
1,2-Dichloroethane	ug/L	ND	20	20.8	104	70-130	
1,2-Dichloropropane	ug/L	ND	20	21.2	106	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	21.1	105	70-130	
2-Butanone (MEK)	ug/L	ND	40	42.9J	107	70-130	
2-Hexanone	ug/L	ND	40	41.3J	103	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	41.1J	103	70-130	
Acetone	ug/L	ND	40	43.1J	108	70-130	
Acrylonitrile	ug/L	ND	100	107J	107	70-130	
Benzene	ug/L	ND	20	21.8	109	70-148	
Bromochloromethane	ug/L	ND	20	23.8	119	70-130	
Bromodichloromethane	ug/L	ND	20	19.4	97	70-130	
Bromoform	ug/L	ND	20	19.0	95	70-130	

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown  
Pace Project No.: 92245051

MATRIX SPIKE SAMPLE: 1438204		92244337021	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromomethane	ug/L	ND	20	24.2	121	70-130	
Carbon disulfide	ug/L	ND	20	23.3J	117	70-130	
Carbon tetrachloride	ug/L	ND	20	23.2	116	70-130	
Chlorobenzene	ug/L	ND	20	22.3	111	70-146	
Chloroethane	ug/L	ND	20	26.3	132	70-130	M1
Chloroform	ug/L	ND	20	21.0	105	70-130	
Chloromethane	ug/L	ND	20	27.1	135	70-130	M1
cis-1,2-Dichloroethene	ug/L	ND	20	22.8	114	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	20.1	100	70-130	
Dibromochloromethane	ug/L	ND	20	19.8	99	70-130	
Dibromomethane	ug/L	ND	20	20.7	103	70-130	
Ethylbenzene	ug/L	ND	20	21.1	106	70-130	
Iodomethane	ug/L	ND	40	32.9	82	70-130	
Methylene Chloride	ug/L	ND	20	23.3	116	70-130	
Styrene	ug/L	ND	20	18.7	94	70-130	
Tetrachloroethene	ug/L	ND	20	21.9	110	70-130	
Toluene	ug/L	ND	20	20.7	103	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	21.6	108	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	19.9	100	70-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	20	17.2J	86	70-130	
Trichloroethene	ug/L	ND	20	20.3	101	69-151	
Trichlorofluoromethane	ug/L	ND	20	25.1	125	70-130	
Vinyl acetate	ug/L	ND	40	31.7J	79	70-130	
Vinyl chloride	ug/L	ND	20	23.9	120	70-130	
1,2-Dichloroethane-d4 (S)	%				93	70-130	
4-Bromofluorobenzene (S)	%				96	70-130	
Toluene-d8 (S)	%				96	70-130	

SAMPLE DUPLICATE: 1438203

Parameter	Units	92244854005 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	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown

Pace Project No.: 92245051

SAMPLE DUPLICATE: 1438203

Parameter	Units	92244854005 Result	Dup Result	RPD	Max RPD	Qualifiers
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	
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)	%	102	106	4		
4-Bromofluorobenzene (S)	%	102	104	1		
Toluene-d8 (S)	%	99	101	2		

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown  
Pace Project No.: 92245051

QC Batch: MSV/31312 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill  
Associated Lab Samples: 92245051001, 92245051002, 92245051003, 92245051004, 92245051005, 92245051006, 92245051007, 92245051008

METHOD BLANK: 1439969 Matrix: Water  
Associated Lab Samples: 92245051001, 92245051002, 92245051003, 92245051004, 92245051005, 92245051006, 92245051007, 92245051008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	04/21/15 22:39	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/21/15 22:39	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	04/21/15 22:39	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/21/15 22:39	
1,1-Dichloroethane	ug/L	ND	5.0	04/21/15 22:39	
1,1-Dichloroethene	ug/L	ND	5.0	04/21/15 22:39	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/21/15 22:39	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	04/21/15 22:39	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/21/15 22:39	
1,2-Dichlorobenzene	ug/L	ND	5.0	04/21/15 22:39	
1,2-Dichloroethane	ug/L	ND	1.0	04/21/15 22:39	
1,2-Dichloropropane	ug/L	ND	1.0	04/21/15 22:39	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/21/15 22:39	
2-Butanone (MEK)	ug/L	ND	100	04/21/15 22:39	
2-Hexanone	ug/L	ND	50.0	04/21/15 22:39	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	04/21/15 22:39	
Acetone	ug/L	ND	100	04/21/15 22:39	
Acrylonitrile	ug/L	ND	200	04/21/15 22:39	
Benzene	ug/L	ND	1.0	04/21/15 22:39	
Bromochloromethane	ug/L	ND	3.0	04/21/15 22:39	
Bromodichloromethane	ug/L	ND	1.0	04/21/15 22:39	
Bromoform	ug/L	ND	3.0	04/21/15 22:39	
Bromomethane	ug/L	ND	10.0	04/21/15 22:39	
Carbon disulfide	ug/L	ND	100	04/21/15 22:39	
Carbon tetrachloride	ug/L	ND	1.0	04/21/15 22:39	
Chlorobenzene	ug/L	ND	3.0	04/21/15 22:39	
Chloroethane	ug/L	ND	10.0	04/21/15 22:39	
Chloroform	ug/L	ND	5.0	04/21/15 22:39	
Chloromethane	ug/L	ND	1.0	04/21/15 22:39	
cis-1,2-Dichloroethene	ug/L	ND	5.0	04/21/15 22:39	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/21/15 22:39	
Dibromochloromethane	ug/L	ND	3.0	04/21/15 22:39	
Dibromomethane	ug/L	ND	10.0	04/21/15 22:39	
Ethylbenzene	ug/L	ND	1.0	04/21/15 22:39	
Iodomethane	ug/L	ND	10.0	04/21/15 22:39	
Methylene Chloride	ug/L	ND	1.0	04/21/15 22:39	
Styrene	ug/L	ND	1.0	04/21/15 22:39	
Tetrachloroethene	ug/L	ND	1.0	04/21/15 22:39	
Toluene	ug/L	ND	1.0	04/21/15 22:39	
trans-1,2-Dichloroethene	ug/L	ND	5.0	04/21/15 22:39	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown  
Pace Project No.: 92245051

METHOD BLANK: 1439969

Matrix: Water

Associated Lab Samples: 92245051001, 92245051002, 92245051003, 92245051004, 92245051005, 92245051006, 92245051007, 92245051008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/21/15 22:39	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	04/21/15 22:39	
Trichloroethene	ug/L	ND	1.0	04/21/15 22:39	
Trichlorofluoromethane	ug/L	ND	1.0	04/21/15 22:39	
Vinyl acetate	ug/L	ND	50.0	04/21/15 22:39	
Vinyl chloride	ug/L	ND	1.0	04/21/15 22:39	
Xylene (Total)	ug/L	ND	5.0	04/21/15 22:39	
1,2-Dichloroethane-d4 (S)	%	108	70-130	04/21/15 22:39	
4-Bromofluorobenzene (S)	%	100	70-130	04/21/15 22:39	
Toluene-d8 (S)	%	106	70-130	04/21/15 22:39	

LABORATORY CONTROL SAMPLE: 1439970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.3	97	80-125	
1,1,1-Trichloroethane	ug/L	50	60.0	120	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	47.7	95	79-124	
1,1,2-Trichloroethane	ug/L	50	52.9	106	85-125	
1,1-Dichloroethane	ug/L	50	58.4	117	73-126	
1,1-Dichloroethene	ug/L	50	63.3	127	66-135	
1,2,3-Trichloropropane	ug/L	50	45.7	91	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	42.4	85	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	48.6	97	83-124	
1,2-Dichlorobenzene	ug/L	50	45.0	90	80-133	
1,2-Dichloroethane	ug/L	50	55.4	111	67-128	
1,2-Dichloropropane	ug/L	50	55.2	110	75-132	
1,4-Dichlorobenzene	ug/L	50	43.2	86	78-130	
2-Butanone (MEK)	ug/L	100	103	103	61-144	
2-Hexanone	ug/L	100	91.1	91	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.6J	97	72-135	
Acetone	ug/L	100	120	120	48-146	
Acrylonitrile	ug/L	250	272	109	40-160	
Benzene	ug/L	50	54.8	110	80-125	
Bromochloromethane	ug/L	50	64.7	129	71-125 L0	
Bromodichloromethane	ug/L	50	50.7	101	78-124	
Bromoform	ug/L	50	40.7	81	71-128	
Bromomethane	ug/L	50	39.9	80	40-160	
Carbon disulfide	ug/L	50	63.3J	127	50-160	
Carbon tetrachloride	ug/L	50	56.5	113	69-131	
Chlorobenzene	ug/L	50	47.3	95	81-122	
Chloroethane	ug/L	50	67.0	134	39-148	
Chloroform	ug/L	50	54.4	109	73-127	
Chloromethane	ug/L	50	49.0	98	44-146	

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown

Pace Project No.: 92245051

LABORATORY CONTROL SAMPLE: 1439970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	58.0	116	74-124	
cis-1,3-Dichloropropene	ug/L	50	57.0	114	72-132	
Dibromochloromethane	ug/L	50	46.1	92	78-125	
Dibromomethane	ug/L	50	53.1	106	82-120	
Ethylbenzene	ug/L	50	46.0	92	79-121	
Iodomethane	ug/L	100	85.5	85	39-154	
Methylene Chloride	ug/L	50	71.0	142	64-133	L0
Styrene	ug/L	50	50.0	100	84-126	
Tetrachloroethene	ug/L	50	45.5	91	78-122	
Toluene	ug/L	50	52.3	105	80-121	
trans-1,2-Dichloroethene	ug/L	50	60.5	121	71-127	
trans-1,3-Dichloropropene	ug/L	50	54.5	109	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	40.2J	80	40-160	
Trichloroethene	ug/L	50	52.5	105	78-122	
Trichlorofluoromethane	ug/L	50	65.1	130	53-137	
Vinyl acetate	ug/L	100	121	121	40-160	
Vinyl chloride	ug/L	50	60.7	121	58-137	
Xylene (Total)	ug/L	150	142	94	81-126	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1439971

Parameter	Units	92245265006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	21.3	107	70-130	
1,1,1-Trichloroethane	ug/L	ND	20	28.2	141	70-130	M1
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.4	102	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	22.6	113	70-130	
1,1-Dichloroethane	ug/L	ND	20	27.8	139	70-130	M1
1,1-Dichloroethene	ug/L	ND	20	30.2	151	70-166	
1,2,3-Trichloropropane	ug/L	ND	20	18.1	91	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	17.1	85	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.3	107	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	20.3	102	70-130	
1,2-Dichloroethane	ug/L	ND	20	24.6	123	70-130	
1,2-Dichloropropane	ug/L	ND	20	25.0	125	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	19.2	96	70-130	
2-Butanone (MEK)	ug/L	ND	40	42.2J	106	70-130	
2-Hexanone	ug/L	ND	40	34.5J	86	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	39.7J	99	70-130	
Acetone	ug/L	ND	40	43.3J	108	70-130	
Acrylonitrile	ug/L	ND	100	108J	108	70-130	
Benzene	ug/L	ND	20	25.3	127	70-148	
Bromochloromethane	ug/L	ND	20	29.8	149	70-130	M0

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown

Pace Project No.: 92245051

MATRIX SPIKE SAMPLE: 1439971

Parameter	Units	92245265006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	ND	20	21.5	108	70-130	
Bromoform	ug/L	ND	20	17.8	89	70-130	
Bromomethane	ug/L	ND	20	21.5	108	70-130	
Carbon disulfide	ug/L	ND	20	29.8J	149	70-130	M1
Carbon tetrachloride	ug/L	ND	20	28.0	140	70-130	M1
Chlorobenzene	ug/L	ND	20	22.5	112	70-146	
Chloroethane	ug/L	ND	20	29.7	149	70-130	M1
Chloroform	ug/L	ND	20	25.3	127	70-130	
Chloromethane	ug/L	ND	20	23.2	116	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	27.1	135	70-130	M1
cis-1,3-Dichloropropene	ug/L	ND	20	24.0	120	70-130	
Dibromochloromethane	ug/L	ND	20	19.2	96	70-130	
Dibromomethane	ug/L	ND	20	23.2	116	70-130	
Ethylbenzene	ug/L	ND	20	21.9	109	70-130	
Iodomethane	ug/L	ND	40	38.9	97	70-130	
Methylene Chloride	ug/L	ND	20	33.9	169	70-130	M0
Styrene	ug/L	ND	20	21.7	109	70-130	
Tetrachloroethene	ug/L	ND	20	21.9	110	70-130	
Toluene	ug/L	ND	20	24.1	121	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	29.7	148	70-130	M1
trans-1,3-Dichloropropene	ug/L	ND	20	24.4	122	70-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	20	15.1J	76	70-130	
Trichloroethene	ug/L	ND	20	24.2	121	69-151	
Trichlorofluoromethane	ug/L	ND	20	30.9	155	70-130	M1
Vinyl acetate	ug/L	ND	40	47.0J	117	70-130	
Vinyl chloride	ug/L	ND	20	29.0	145	70-130	M1
1,2-Dichloroethane-d4 (S)	%				105	70-130	
4-Bromofluorobenzene (S)	%				109	70-130	
Toluene-d8 (S)	%				102	70-130	

SAMPLE DUPLICATE: 1439972

Parameter	Units	92245265007 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	
1,2-Dichloropropane	ug/L	ND	ND		30	

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### QUALITY CONTROL DATA

Project: Wilkes-Germantown

Pace Project No.: 92245051

SAMPLE DUPLICATE: 1439972

Parameter	Units	92245265007 Result	Dup Result	RPD	Max RPD	Qualifiers
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	
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)	%	112	106	5		
4-Bromofluorobenzene (S)	%	115	110	5		
Toluene-d8 (S)	%	108	108	1		

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## QUALIFIERS

Project: Wilkes-Germantown  
Pace Project No.: 92245051

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### 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

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Wilkes-Germantown

Pace Project No.: 92245051

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92245051001	9701-MW1	EPA 3010	MPRP/18272	EPA 6010	ICP/16411
92245051002	9701-MW2	EPA 3010	MPRP/18272	EPA 6010	ICP/16411
92245051003	9701-MW3	EPA 3010	MPRP/18272	EPA 6010	ICP/16411
92245051004	9701-MW4	EPA 3010	MPRP/18272	EPA 6010	ICP/16411
92245051005	9701-MW5	EPA 3010	MPRP/18272	EPA 6010	ICP/16411
92245051006	9701-Upstream	EPA 3010	MPRP/18272	EPA 6010	ICP/16411
92245051007	9701-Downstream	EPA 3010	MPRP/18272	EPA 6010	ICP/16411
92245051008	9701-Field Blank	EPA 3010	MPRP/18272	EPA 6010	ICP/16411
92245051001	9701-MW1	EPA 8260	MSV/31312		
92245051002	9701-MW2	EPA 8260	MSV/31312		
92245051003	9701-MW3	EPA 8260	MSV/31312		
92245051004	9701-MW4	EPA 8260	MSV/31312		
92245051005	9701-MW5	EPA 8260	MSV/31312		
92245051006	9701-Upstream	EPA 8260	MSV/31312		
92245051007	9701-Downstream	EPA 8260	MSV/31312		
92245051008	9701-Field Blank	EPA 8260	MSV/31312		
92245051009	9701-Trip Blank	EPA 8260	MSV/31256		

### REPORT OF LABORATORY ANALYSIS

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Document Name: **Sample Condition Upon Receipt (SCUR)**

Document Revised: September 22, 2014

Page 1 of 2

Document Number: **F-CHR-CS-003-rev.15**

Issuing Authority: **Pace Huntersville Quality Office**

Client Name: Joyle

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace  Other

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

Packing Material:  Bubble V  ip  Bubble Bags  None  Other

Thermometer Used: IR Gun **T1401** Type of Ice: **Wet** Blue None  Samples on ice, cooling process has begun

Temp Correction Factor **T1401** 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: AP 4-16-15

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

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

SCURF Review:	<u>JS</u>	Date:	<u>4/10/15</u>
SRF Review:	<u>JMD</u>	Date:	<u>4/13/15</u>

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#: 92245051



92245051



# CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Section B  
 Required Project Information:  
 Report To: Alex Everhart  
 Copy To:  
 Purchase Order No.  
 Client Project ID: Wilkes-Germantown 356.1501.12  
 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

ITEM#	MATRIX	CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analyses Test		Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	SAMPLE CONDITIONS		
											H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	NC Appendix I Metals	NC Appendix I VOC 8260's					
1	9701-MW1	DW	WT G	G	4/9/15	1607	4	4		4	X	X	X	X	X	X	X	X	X	X		001		
2	9701-MW2	WT	WT G	G	4/9/15	1955	4	4		4	X	X	X	X	X	X	X	X	X	X		002		
3	9701-MW3	WT	WT G	G	"	1735	"	"		"	X	X	X	X	X	X	X	X	X	X		003		
4	9701-MW4	WT	WT G	G	"	1930	"	"		"	X	X	X	X	X	X	X	X	X	X		004		
5	9701-MW5	WT	WT G	G	"	1940	"	"		"	X	X	X	X	X	X	X	X	X	X		005		
6	9701-Upstream	WT	WT G	G	"	1700	"	"		"	X	X	X	X	X	X	X	X	X	X		006		
7	9701-Downstream	WT	WT G	G	"	1720	"	"		"	X	X	X	X	X	X	X	X	X	X		007	DRY No Sample	
8	9701-Outlet#1	WT	WT G	G	"	1945	"	"		"	X	X	X	X	X	X	X	X	X	X		008		
9	9701-Field Blank	WT	WT G	G	"	0630	"	"		"	X	X	X	X	X	X	X	X	X	X		009		
10	9701-Trip Blank	WT	WT G	G	"	0630	"	"		"	X	X	X	X	X	X	X	X	X	X		009		
11																								
12																								

ADDITIONAL COMMENTS

REINQUISHED BY/AFFILIATION

DATE

TIME

ACCEPTED BY/AFFILIATION

DATE

TIME

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dan Girchner

SIGNATURE OF SAMPLER: *Dan Girchner*

DATE Signed: 4/10/15

TEMP in C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

DATE: 4/9/15



**GROUND WATER SAMPLING LOG**

Project Name: Wilkes Co. Germantown Project No. /Task No.: 356.1501.12.01

Well ID: 9701-MW1 Sampler(s): G. Eller / D. Girdner

Well Location: After entrance gate to the right near survey control point

Well Diameter: 4 inches  
Initial Depth to Water (DTW): 54.04 feet  
Depth to Bottom (DTB): 89.69 feet  
Water Column Thickness (WCT): 32.65 feet [DTB-DTW]

**Calculation for One Well Volume (WV):**

For 2" Well: WCT X 0.163 = \_\_\_\_\_ gallons

For 4" Well: WCT X 0.653 = 21.3 gallons

For THREE Well Volumes: WV X 3 = 63.9 gallons

Actual Amount Purged/Bailed: 63.9 gallons

Purged with: 12 Volt Tornado 2.0

Sampled with: 12 Volt Tornado 2.0

Depth to Water before Sampling: - feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1406	19.5	5.83	156.0	3.27	GE
21.3	1426	18.7	5.90	155.0	3.18	GE
42.6	1445	17.5	5.87	144.0	3.27	GE
63.9	1507	18.1	5.85	141.0	3.48	GE
Before Sampling	1507	18.1	5.85	141.0	3.48	GE

Comments (weather conditions, odor, color, silt, etc.): The weather was Sunny and partly cloudy with temperatures in the 70s on 4/9/15.

Signature: *G. Eller* Date: 4/23/15  
QA/QC Sign Off: *M. E. T.* Date: 4/23/15

DATE: 4/9/15



**GROUND WATER SAMPLING LOG**

Project Name: Wilkes Co. Germantown Project No. /Task No.: 356.1501.12.01

Well ID: 9701-MW2 Sampler(s): G. Eller / D. Girdner

Well Location: Past sed. pond on top of hill to right near big tanks

Well Diameter: 4 inches  
 Initial Depth to Water (DTW): 47.04 feet  
 Depth to Bottom (DTB): 81.54 feet  
 Water Column Thickness (WCT): 34.47 feet [DTB-DTW]

**Calculation for One Well Volume (WV):**

For 2" Well: WCT X 0.163 = \_\_\_\_\_ gallons

For 4" Well: WCT X 0.653 = 22.5 gallons

For THREE Well Volumes: WV X 3 = 67.5 gallons

Actual Amount Purged/Bailed: 26.0 gallons

Purged with: 12 Volt Tornado 2.0

Sampled with: 12 Volt Tornado 2.0

Depth to Water before Sampling: 67.84 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1544	18.7	6.96	210	4.42	GE
22.5	1606	17.6	6.93	189	4.88	GE
Dry @ 26.0						
Before Sampling	1955	15.7	7.04	108	4.87	GE

Comments (weather conditions, odor, color, silt, etc.): The weather was cloudy with temperatures in the 70s on 4/9/15. Severe thunder storm and heavy rain occurred between purge and sampling.

Signature: *Gretchen Eller* Date: 4/23/15

QA/QC Sign Off: *My [Signature]* Date: 4/23/15

DATE: 4/9/15



**GROUND WATER SAMPLING LOG**

Project Name: Wilkes Co. Germantown Project No. /Task No.: 356.1501.12.01

Well ID: 9701-MW3 Sampler(s): G. Eller / D. Girdner

Well Location: Take first access rd. after offices. Follow rd. and it's on the right

Well Diameter: 4 inches  
Initial Depth to Water (DTW): 43.49 feet  
Depth to Bottom (DTB): 64.00 feet  
Water Column Thickness (WCT): 20.51 feet [DTB-DTW]

**Calculation for One Well Volume (WV):**

For 2" Well: WCT X 0.163 = \_\_\_\_\_ gallons

For 4" Well: WCT X 0.653 = 13.3 gallons

For THREE Well Volumes: WV X 3 = 39.9 gallons

Actual Amount Purged/Bailed: 39.9 gallons

Purged with: 12 Volt Tornado 2.0

Sampled with: 12 Volt Tornado 2.0

Depth to Water before Sampling: \_\_\_\_\_ - \_\_\_\_\_ feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1653	16.2	5.94	52	4.76	GE
13.3	1706	15.2	5.94	50	4.25	GE
26.6	1720	15.1	5.94	49	4.73	GE
39.9	1735	15.1	5.92	51	4.73	GE
Before Sampling	1735	15.1	5.92	51	4.73	GE

Comments (weather conditions, odor, color, silt, etc.): The weather was cloudy with temperatures in the 70s until severe thunderstorm and heavy rain hit during purge and sampling.

Signature: *Guth Eller* Date: 4/23/15

QA/QC Sign Off: *My [Signature]* Date: 4/23/15

DATE: 4/9/15



**GROUND WATER SAMPLING LOG**

Project Name: Wilkes Co. Germantown Project No./Task No.: 356.1501.12.01

Well ID: 9701-MW4 Sampler(s): G. Eller / D. Girdner

Well Location: Continue along access rd. take left at river and it's on the left

Well Diameter: 4 inches  
Initial Depth to Water (DTW): 12.93 feet  
Depth to Bottom (DTB): 28.21 feet  
Water Column Thickness (WCT): 15.28 feet [DTB-DTW]

**Calculation for One Well Volume (WV):**

For 2" Well: WCT X 0.163 = \_\_\_\_\_ gallons

For 4" Well: WCT X 0.653 = 10.0 gallons

For THREE Well Volumes: WV X 3 = 30.0 gallons

Actual Amount Purged/Bailed: 30.0 gallons

Purged with: 12 Volt Tornado 2.0

Sampled with: 12 Volt Tornado 2.0

Depth to Water before Sampling: - feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1910	15.1	5.98	236	14.2	GE
10.0	1915	13.6	5.99	228	5.15	GE
20.0	1922	13.2	5.97	298	7.27	GE
30.0	1930	13.2	6.13	384	16.7	GE
Before Sampling	1930	13.2	6.13	384	16.7	GE

Comments (weather conditions, odor, color, silt, etc.): The weather was cloudy with temperatures in the 70s on 4/9/15. Sampling followed a heavy rain storm.

Signature: G. Eller Date: 4/23/15

QA/QC Sign Off: [Signature] Date: 4/23/15

DATE: 4/9/15



**GROUND WATER SAMPLING LOG**

Project Name: Wilkes Co. Germantown Project No. /Task No.: 356.1501.12.01

Well ID: 9701-MW5 Sampler(s): G. Eller / D. Girdner

Well Location: Continue past MW-3 to end of road, 2in well in newer casing

Well Diameter: 2 inches  
Initial Depth to Water (DTW): 9.16 feet  
Depth to Bottom (DTB): 23.47 feet  
Water Column Thickness (WCT): 14.31 feet [DTB-DTW]

**Calculation for One Well Volume (WV):**

For 2" Well: WCT X 0.163 = 14.4 gallons  
For 4" Well: WCT X 0.653 = \_\_\_\_\_ gallons

For THREE Well Volumes: WV X 3 = 42.9 gallons

Actual Amount Purged/Bailed: 42.9 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	1802	14.8	6.33	1299	12.34	GE
14.4	1821	13.9	6.45	1304	1136	GE
28.8	1840	14.0	6.51	1305	>1200	GE
42.9	1901	14.1	6.48	1277	>1200	GE
Before Sampling	1940	15.2	6.49	1271	9.15	GE

Comments (weather conditions, odor, color, silt, etc.): The weather was cloudy with temperatures in the 70s on 4/9/15 and followed a heavy rain storm.

Field Blank taken @ 1945 on 4/9/15

Signature: *Butch Eller* Date: 4-24-15

QA/QC Sign Off: *My Eller* Date: 4/24/15

DATE: 4/9/15



**SURFACE WATER MONITORING LOG**

Project Name: Wilkes Co. Germanton Project/Task No.: 356.1501.12.01

Surface Point ID: Outfall 1 Sampler(s): G. Eller / D. Girdner

Location: From 2ft pipe past MW-5

**Field Parameters:**

Time of Sampling: \_\_\_\_\_ - \_\_\_\_\_

pH: \_\_\_\_\_ - \_\_\_\_\_

Temperature: \_\_\_\_\_ - \_\_\_\_\_ (°C)

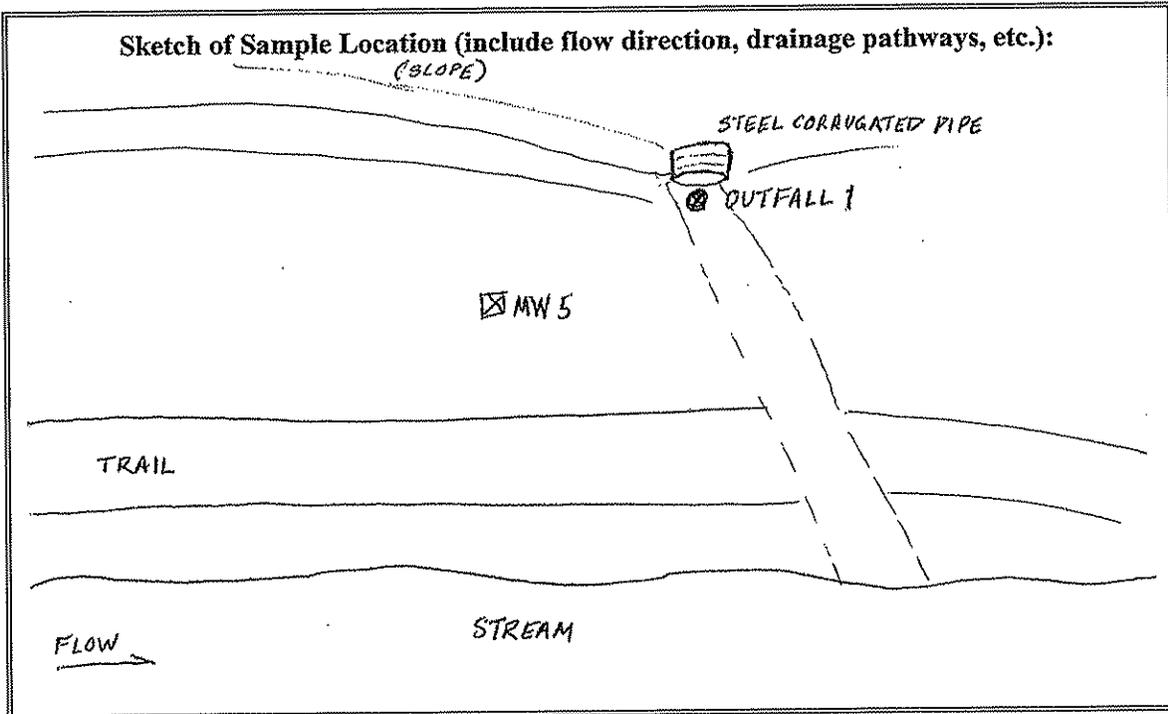
Conductivity: \_\_\_\_\_ - \_\_\_\_\_ (µS)

Turbidity: \_\_\_\_\_ - \_\_\_\_\_ (ntu)

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

No outfall to sample.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Signature: Bretha Eller Date: 4/23/15

QA/QC Sign Off: M. Ehrig Date: 4/23/15

DATE: 4/9/15



### SURFACE WATER MONITORING LOG

Project Name: Wilkes Co. Germanton Project/Task No.: 356.1501.12.01

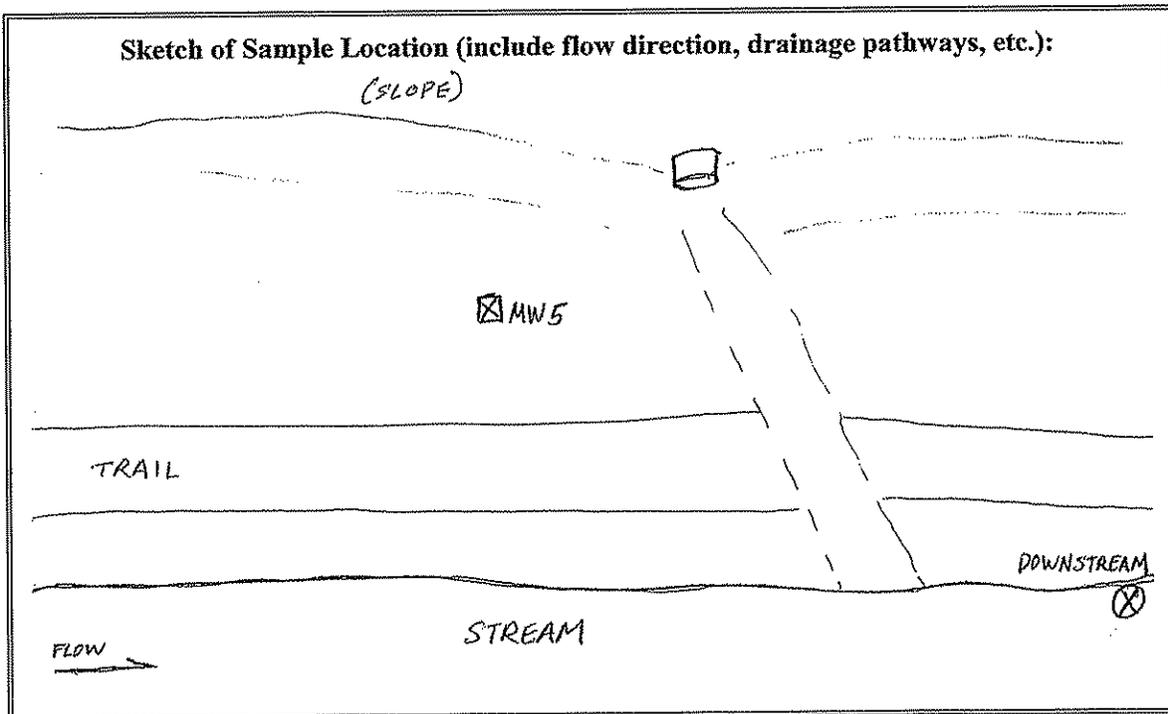
Surface Point ID: Downstream Sampler(s): G. Eller / D. Girdner

Location: From river past MW-5 at property line

**Field Parameters:**

Time of Sampling:	<u>1720</u>
pH:	<u>7.23</u>
Temperature:	<u>19.5</u> (°C)
Conductivity:	<u>97</u> (µS)
Turbidity:	<u>10.68</u> (ntu)

Comments/Sample Description (weather conditions, odor, color, silt, etc.): The weather was cloudy with temperatures in the 70s.



Signature: *Guth Eller* Date: 4/23/15

QA/QC Sign Off: *Aly E. G.* Date: 4/23/15

DATE: 4/9/15



**SURFACE WATER MONITORING LOG**

Project Name: Wilkes Co. Germanton Project/Task No.: 356.1501.12.01

Surface Point ID: Upstream Sampler(s): G. Eller / D. Girdner

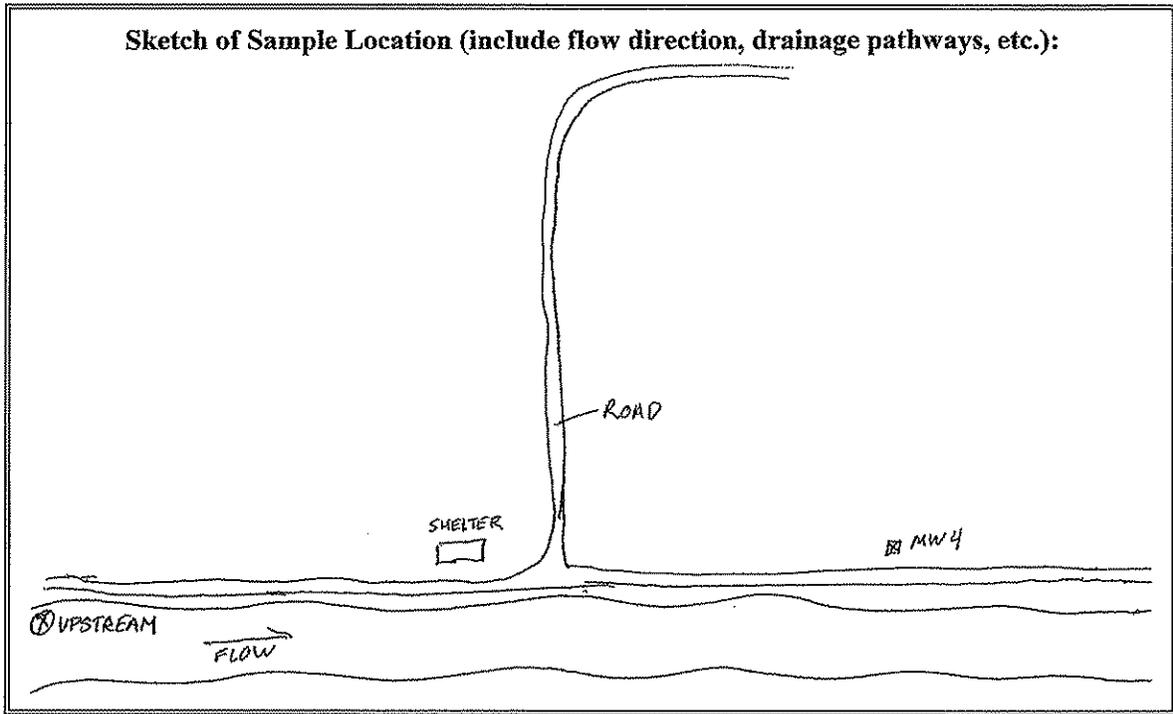
Location: From bottom of rd turn right at shelter continue to farthest point

**Field Parameters:**

Time of Sampling:	<u>1700</u>
pH:	<u>6.84</u>
Temperature:	<u>19.0</u> (°C)
Conductivity:	<u>51</u> (µS)
Turbidity:	<u>3.56</u> (ntu)

Comments/Sample Description (weather conditions, odor, color, silt, etc.): The weather was partly cloudy with temperatures in the 70s following a heavy rain storm.

The field blank was taken at 1945 on 4/9/15.



Signature: *Guthrie Eller* Date: 4/23/15

QA/QC Sign Off: *Ally Loh* Date: 4/23/15

## **Appendix 2**

Summary of Detections, Exceedances, and Field Parameters

## Summary of Detections

WELL ID	PARAMETER	RESULT	UNITS	SWSL	NC2L/*GWPS	DATE
9701-MW1	Barium	128.0	ug/L	100	700	4/9/2015
9701-MW4	Copper	17.6	ug/L	10	1000	4/9/2015
9701-MW4	1,4-Dichlorobenzene	1.1	ug/L	1	6	4/9/2015
9701-MW5	Barium	327.0	ug/L	100	700	4/9/2015
9701-MW5	Cobalt	<b>13.7</b>	ug/L	10	1	4/9/2015
9701-MW5	1,4-Dichlorobenzene	3.0	ug/L	1	6	4/9/2015
9701-MW5	Chlorobenzene	6.7	ug/L	3	50	4/9/2015
9701-Downstream	Zinc	16.9	ug/L	10	1000	4/9/2015

NOTES: All Results in micorgrams per liter ( $\mu\text{g/L}$ )  
 SWSL = NC Soild Waste Section Reporting Limit

# Summary of Exceedances

WELL ID	PARAMETER	RESULT	UNITS	SWSL	NC2L/*GWPS	GPS	DATE
9701-MW5	Cobalt	13.7	ug/L	10	1*	1	4/9/2015

**NOTES:**

All Results in micorgrams per liter ( $\mu\text{g/L}$ )

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)

## Summary of Field Parameters

WELL ID	PARAMETER	RESULT	UNITS	COLLECT DATE
9701-MW1	pH	5.85	S.U.	4/9/2015
9701-MW1	Temperature	18.1	°C	4/9/2015
9701-MW1	Conductivity	141	µS	4/9/2015
9701-MW1	Turbidity	3.48	NTU	4/9/2015
9701-MW1	Static Water Level	54.04	ft	4/9/2015
9701-MW1	Well Depth	89.69	ft	4/9/2015
9701-MW2	pH	7.04	S.U.	4/9/2015
9701-MW2	Temperature	15.7	°C	4/9/2015
9701-MW2	Conductivity	108	µS	4/9/2015
9701-MW2	Turbidity	4.87	NTU	4/9/2015
9701-MW2	Static Water Level	47.04	ft	4/9/2015
9701-MW2	Well Depth	81.54	ft	4/9/2015
9701-MW3	pH	5.92	S.U.	4/9/2015
9701-MW3	Temperature	15.1	°C	4/9/2015
9701-MW3	Conductivity	51	µS	4/9/2015
9701-MW3	Turbidity	4.73	NTU	4/9/2015
9701-MW3	Static Water Level	43.49	ft	4/9/2015
9701-MW3	Well Depth	64	ft	4/9/2015
9701-MW4	pH	6.13	S.U.	4/9/2015
9701-MW4	Temperature	13.2	°C	4/9/2015
9701-MW4	Conductivity	384	µS	4/9/2015
9701-MW4	Turbidity	16.7	NTU	4/9/2015
9701-MW4	Static Water Level	12.93	ft	4/9/2015
9701-MW4	Well Depth	28.21	ft	4/9/2015

## Summary of Field Parameters

WELL ID	PARAMETER	RESULT	UNITS	COLLECT DATE
9701-MW5	pH	6.48	S.U.	4/9/2015
9701-MW5	Temperature	14.1	°C	4/9/2015
9701-MW5	Conductivity	1277	μS	4/9/2015
9701-MW5	Turbidity	>1200	NTU	4/9/2015
9701-MW5	Static Water Level	9.16	ft	4/9/2015
9701-MW5	Well Depth	23.47	ft	4/9/2015
9701-Upstream	pH	6.84	S.U.	4/9/2015
9701-Upstream	Temperature	19	°C	4/9/2015
9701-Upstream	Conductivity	51	μS	4/9/2015
9701-Upstream	Turbidity	3.56	NTU	4/9/2015
9701-Downstream	pH	7.23	S.U.	4/9/2015
9701-Downstream	Temperature	19.5	°C	4/9/2015
9701-Downstream	Conductivity	97	μS	4/9/2015
9701-Downstream	Turbidity	10.68	NTU	4/9/2015

°C = degrees Centigrade

S.U. = Standard Units

μS = microsemens

NTU = Nephelometric Turbidity Units

**Appendix 3**  
Horizontal Groundwater Flow Velocities

## Horizontal Groundwater Flow Velocities

Date of Water Table Measurements:		April 9, 2015						
FLOW LINE SEGMENT	SEGMENT LENGTH (feet)	FLOW DIRECTION	SEGMENT BEGIN & END GW ELEVATION (feet-AMSL)	HORIZ. GRADIENT $i$ (ft/ft)	HYDRAULIC CONDUCTIVITY $K$ (ft/day)	EFFECTIVE POROSITY $n_e$	LINEAR VELOCITY $V$ (ft/year)	
$i_1$	424	S	1,160	0.1415	5.50E-01	0.16	177.55	
			1,100					
$i_2$	560	E	1,160	0.2143	5.50E-01	0.16	268.86	
			1,040					
$i_3$	809	E	1,160	0.1483	5.50E-01	0.16	186.11	
			1,040					
			Average	0.1680			Average	210.84

**Notes:**

Linear flow velocity:  $V = Ki/n_e$  (modified Darcy equation).

Hydraulic conductivity ( $K$ ) is based on slug test from Wilkes County Roaring River Landfill.

Effective porosity ( $n_e$ ) is based on data for the Wilkes County Roaring River Landfill.

Refer to Drawing 1 for flow line segments.