

**CASWELL COUNTY LANDFILL**  
**Yanceyville, North Carolina**  
**Semi-Annual Water Quality Monitoring Report**  
**September 2013 Sampling Event**  
S&ME Project No. 1584-07-034

Prepared For:



Caswell County  
Post Office Box 98  
144 Court Square  
Yanceyville, North Carolina 27379

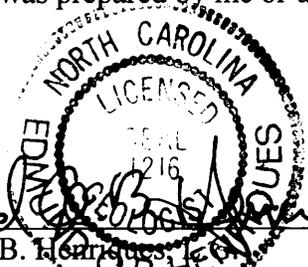
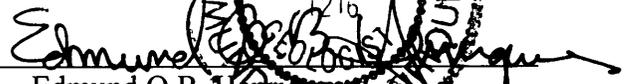
Prepared By:



S&ME, Inc.  
3718 Old Battleground Road  
Greensboro, North Carolina 27410

October 1, 2013

I hereby certify this 1st day of October 2013 that this report was prepared by me or under my direct supervision.

  
  
Edmund Q.B. Henriques  
Environmental Department Manager

Technical Review provided by:

  
Wayne H. Watterson, P.E.  
Senior Engineer 

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## 1.0 EXECUTIVE SUMMARY

Six monitoring wells at the Caswell County Landfill were sampled on September 11, 2013. The six wells (MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6) comprise the groundwater monitoring system for the closed Caswell County Landfill. This sampling event was conducted according to North Carolina Solid Waste Management Guidelines. Samples collected from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 and surface water samples SW-1 and SW-2 were submitted for analysis of the North Carolina Landfill Appendix I volatile organic constituents plus eight RCRA Metals. The samples were analyzed by PACE Analytical Services, Inc. of Huntersville, North Carolina, a North Carolina certified laboratory.

Analytical results of the six groundwater samples indicate that the metal arsenic was detected at concentrations greater than the corresponding 15A North Carolina Administrative Code (NCAC) 2L.0200 groundwater quality standards (2L Standard) solely in monitoring wells MW-1 and MW-2 during this event. Considering the fact that reported arsenic concentration for sample MW-2 was similar to the concentration at background monitoring well MW-1, it may represent a naturally occurring condition; which if validated, it would not represent an exceedance of the 2L Standard. Chromium was detected at monitoring well MW-4 at a concentration greater than the 2L Standard. The chromium concentrations exceeding the standard at thought to relate to suspended or colloidal solids in the sample, which if removed from the sample, the sample analysis may not yield an exceedance of the standard. There were no other metals detected at concentrations greater than the corresponding 2L Standards.

The volatile organic constituent benzene was detected in monitoring well MW-2 at reported concentration above the corresponding 2L Standard of 1 µg/L. Volatile organic constituent 1,4-dichlorobenzene was detected in the groundwater samples collected from wells MW-2 and MW-4 at reported concentrations above the corresponding 2L Standard of 6 µg/L. During this event, no other volatile organic compounds were detected in the monitoring wells sampled at concentrations greater than the corresponding 2L Standards.

During this monitoring event, no volatile organic constituents were detected above the method detection limit in either of the two stream sample locations. Barium was detected in up-gradient background surface water sample SW-1 and down-gradient sample SW-2 at similar concentrations. The reported concentrations are below their respective 15A NCAC 2B Surface Water Standard for Class C surface waters. There were no other metals detected above the method detection limit in the surface water samples collected during this sampling event.

It is believed that the cause of the 2L Standards exceedances for Benzene and 1,4-Dichlorobenzene at the Caswell County Landfill is from percolation of landfill constituents from the waste management units into the uppermost groundwater aquifer. Due to the detection of these exceedances above the 2L Standards in the compliance wells, S&ME recommends that a water supply well receptor survey be completed for the

Caswell County Landfill and the development of an assessment plan to address the 2L Standards exceedances in accordance with regulatory requirements.

## **2.0 INTRODUCTION**

S&ME Inc. (S&ME) has completed the first semi-annual monitoring event for 2013 at the closed Caswell County Landfill site. The monitoring activities were authorized by Caswell County Manager, Mr. Kevin Howard and were completed in general accordance with S&ME proposal 1584-13-P037rev1 dated August 20, 2013. This report summarizes our understanding of the project, our field services, and the results of laboratory analyses performed on the samples collected.

The Caswell County Landfill is a closed facility that currently monitors water quality under a Post Closure Care Plan on a semi-annual basis. The facility uses a network of six (6) groundwater monitoring wells to monitor groundwater quality at the Facility. The groundwater monitoring network is made up of one upgradient monitoring well (MW-1) and five downgradient compliance monitoring wells (MW-2, MW-3, MW-4, MW-5, and MW-6). The collected groundwater samples are analyzed in accordance with 15A NCAC 13B .0500 et seq for the North Carolina Landfill Appendix I volatile organic constituent suite plus the eight RCRA metals. Groundwater monitoring wells were purged and groundwater samples were collected using new, disposable, Teflon bailers, or a sterile pump with new Teflon tubing.

The facility also typically monitors surface water quality at the stream that crosses the down-gradient region of the Facility. As conditions allow, during each semi-annual monitoring event, two surface water samples are collected from this stream at designated sampling points. Stream sampling location SW-1 is the upstream sampling location to the south of the waste management unit. Stream sampling location SW-2 is the downstream sampling location. During the September 11, 2013 sampling event, stream samples were collected from both surface water monitoring points SW-1 and SW-2.

This report discusses the field procedures, summarizes the field measurements and analytical results for the first semi-annual water quality monitoring event for 2013.

## **3.0 SCOPE OF WORK**

S&ME has performed the second semi-annual groundwater sampling of the six (6) network groundwater monitoring wells for the 2013 groundwater monitoring year. The groundwater monitoring wells were purged, sampled, and the collected groundwater samples collected from MW-1 through MW-6 were analyzed (in accordance with 15A NCAC 13B .0500 et seq) for the North Carolina Appendix I volatile organic constituents and all monitoring wells were analyzed for the eight RCRA metals. This semi-annual groundwater monitoring report has been prepared to summarize the September 11, 2013, groundwater monitoring event and includes:

- Summary Tables of the laboratory analytical data from each sampling event,
- Development of a current potentiometric map,

- A discussion of findings and results,
- An electronic copy of this report will be sent to the North Carolina Department of Environment and Natural Resources (NC DENR)

## **4.0 METHODS EMPLOYED**

### **4.1 Monitoring Well Sampling**

Groundwater monitoring well sampling took place on September 11, 2013. The monitoring well locations with respect to the Facility layout are shown on **Figure 1**. Prior to sample collection each well was opened and the static water level measured relative to the top edge of the PVC well casing. The total well depth was used to determine the volume of water in the wells at the time of the sampling event. These data are summarized in **Table 1**.

Monitor wells MW-1 and MW-4 were manually purged using a new, sterile Teflon bailer prior to collecting the water samples. Each well was purged of three times the well volume or purged until the well went dry prior to the collection of the groundwater sample. The bailer was lowered, by hand, using a nylon rope into the well in such a manner as to minimize agitation of the groundwater. The purge water from each of these wells was monitored for pH, conductivity, and temperature.

Monitor wells MW-3, MW-5, and MW-6 were purged and sampled using a peristaltic pump. New Teflon tubing was used at each well. Each well was purged of three times the well volume or purged until the well was dry prior to the collection of the groundwater sample. The purge water from each of these wells was monitored for pH, conductivity, and temperature. The field data collected during sampling was recorded on the groundwater sampling field data sheets included in **Appendix A** of this report.

Immediately upon collection, each groundwater sample was placed in laboratory supplied containers, packed on ice, and placed under chain-of custody. The sampling technician wore nitrile gloves that were changed between wells to reduce the possibility of cross contamination.

All monitoring well samples were then sent to PACE Analytical Services, Inc. (PACE) in Huntersville, North Carolina to be analyzed for Appendix I volatile organic constituents and the eight RCRA metals.

### **4.2 Surface Water Sampling**

Surface water sampling took place on September 11, 2013. Two stream samples (SW-1 and SW-2) were collected from an unnamed tributary of Moon Creek, which flows along the eastern portion of the Facility and flows easterly away from the Landfill. Surface water sample (SW-1) was collected from an upstream position with respect to the waste management unit and SW-2 was collected downstream of the waste management unit. The surface water samples were collected by immersing laboratory supplied containers directly into the stream at the locations to be sampled. After collection, the surface water

samples were packed on ice and placed under chain-of-custody. All stream samples were analyzed for the North Carolina Appendix I volatile organic constituents as well as the 8 RCRA metals by PACE Analytical Services, Inc.; a North Carolina certified laboratory.

## 5.0 RESULTS

### 5.1 Groundwater Analytical Results

The results of the laboratory analyses for the groundwater monitoring well samples are summarized in **Tables 2 & 3**. S&ME prepared the analytical results summary tables included in this report following the conventions set forth by the NC DENR Solid Waste Section in that any value reported at a concentration below the North Carolina SWSLs is flagged as a “J” or estimated value on the summary tables. **Table 2** and **Table 3** also provide the corresponding 15A North Carolina Administrative Code (NCAC) 2L.0200 groundwater quality standards (2L Standard) for reference.

The complete laboratory reports are included in **Appendix B**. The following summarizes the groundwater sample analyses for the six monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6) sampled on September 11, 2013.

#### Metals:

- Arsenic was detected in monitoring wells MW-1 and MW-2; the reported concentrations of 13.0 µg/L and 11.8 µg/L, respectively, are greater than the 2L Standard for arsenic set at 10 µg/L. Arsenic was also detected at monitoring well MW-4; however, the reported concentration was less 10µg/L.
- Barium was detected in each monitoring well sampled during the current event; however, at concentrations less than the corresponding 2L Standard.
- Chromium was detected solely at monitoring well MW-4, the reported concentration was 11.8 µg/L, which is greater than the 2L Standard for chromium set at 10 µg/L.
- Lead was solely detected at monitoring well MW-4. The reported concentration of 11.5 µg/L is less than the 2L Standard for lead set at 15 µg/L.

There were no other metals detected above the method detection limit from any other groundwater monitoring wells during the September 11, 2013 monitoring event. The analytical results of the metals analyses are summarized in Table 3.

#### Volatile Organic Compounds:

- Benzene was detected in the groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, and MW-5. The reported concentration at well MW-2 is greater than the 2L Standard of 1 µg/L for benzene.
- 1,4-dichlorobenzene was detected in the groundwater samples collected from wells MW-2, MW-3, MW-4, and MW-5. The concentrations reported at wells MW-2 and MW-4 are greater than the 2L Standard established at 6 µg/L.
- Chlorobenzene, 1,2-Dichlorobenzene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, 4-Methyl-2-pentanone (MIBK), and Toluene were detected in

one or more groundwater samples during this monitoring event; however, each of the reported concentrations of these constituents were less than their respective 2L Standard. No other volatile organic compounds were detected in the monitoring wells sampled during this event.

## 5.2 Surface Water Analytical Results

There were no volatile organic constituents detected above the method detection limit in the stream samples SW-1 or SW-2 during the September 11, 2013 semi-annual monitoring event. The results are illustrated on **Table 4**.

The metal barium was detected in samples SW-1 and SW-2, at similar concentrations. The reported concentrations are below the respective 15A NCAC 2B Surface Water Standard for barium for Class C surface waters. There were no other metals detected above the method detection limit in the surface water samples collected during this sampling event. The results of the metals analyses are summarized on **Table 5**.

## 5.3 Groundwater Flow Direction

The static water levels in the monitoring wells were measured on September 11, 2013. The depth to the water table ranged from 7.32 to 24.69 feet below the top of well casing on this date. Groundwater elevation data are presented in Table 1. Ground surface elevations were taken from surface topography illustrated on Plan Sheet No. 3 of the Caswell County Landfill Closure Plans prepared by Dewberry and Davis in March 1994. The groundwater elevation at each monitoring well was approximated by taking the difference of the ground surface elevation (topography) and the depth to static water in each monitoring well. A groundwater contour map was constructed using the calculated groundwater elevation data from the September 11, 2013, sampling event and is presented as **Figure 2**. The groundwater elevation data collected during this monitoring event indicates that the groundwater beneath the landfill generally flows easterly toward the unnamed tributary of Moon Creek.

## 5.4 Quality Assurance

A qualitative review of the data was performed to verify that the detected concentrations in the laboratory report were of known quality. A formal, quantitative data validation was not performed. Laboratory-assigned data qualifiers were evaluated to verify that rejected or unsupported data were not included in the dataset. Quality control data provided in the laboratory reports were also reviewed. No rejected or otherwise unacceptable quality data were reported from the laboratory.

During this event a duplicate sample was collected from monitoring well MW-6 and submitted for analysis. The results of the detected volatile organic constituents and metals from the duplicate sample were similar in concentration to the results reported in sample MW-6; suggesting reasonable accuracy between these analytical results. A Laboratory QC Method Blank was also analyzed for the Appendix I Volatile Organic Compounds as well as the RCRA 8 metals. No monitored constituents were detected in the method blank during the September 11, 2013 monitoring event. The results of the method blank and laboratory QC sample analyses are included in **Appendix B**.

## 5.5 Preliminary Analysis of Cause and Significance of 2L Exceedances

During this event, the metal arsenic was detected at concentrations exceeding the corresponding 2L Standard in monitoring wells MW-1 and MW-2. Considering the fact that monitoring well MW-1 is the background water quality well for the facility and considering that the detected background level at MW-1 is greater than that detected at compliance well MW-2, the reported arsenic concentration at monitoring well MW-2 likely represents natural background conditions; which if validated, the 2L Standard would not be exceeded. Chromium was detected at compliance monitoring well MW-4 at a concentration greater than the corresponding 2L Standard. Historically, chromium concentrations reported for monitoring well MW-4 have varied, ranging from non-detections to a high of 140 µg/L. Taking into consideration the relatively low mobility of chromium, an anticipated relatively low shallow groundwater seepage velocity, and the lack of recurrence of similar elevated concentrations from event to event; supports a theory that elevated concentrations may reflect higher suspended or colloidal solids in a water sample, and not indicative of a release from the waste management unit. Laboratory analysis of filtered vs unfiltered future samples from this monitoring well is needed to confirm this theory.

It is believed that the cause of the 2L Standard exceedances reported for benzene and 1,4-dichlorobenzene within the hydrogeologic regime at the Caswell County Landfill is caused from percolation of landfill constituents from the waste management units into the uppermost groundwater aquifer. The NCDENR Environmental Monitoring Reporting Form is included in **Appendix C**.

Previously, S&ME reviewed the 2000 aerial photograph of the Caswell County Landfill and surrounding vicinity as a preliminary analysis of the proximity of potential receptor water well users to the compliance monitoring wells in which 2L Standard exceedances occurred during the July 2010 groundwater monitoring event. Based on the aerial photograph for the year 2000, the nearest suspect residential home is located approximately 900 feet northeast of compliance monitoring well MW-5, which is the furthest downgradient monitoring well on the landfill side of the unnamed tributary of Moon Creek. The observed suspect homes are topographically up-gradient and on the other side of the unnamed tributary of Moon Creek from the Caswell County Landfill. At this time, S&ME has no information regarding the current use of groundwater as a potable water source for these homes, in the surrounding area.

Due to the detection of exceedances of the 2L Standard in the compliance wells, S&ME recommends that a detailed water supply well receptor survey be completed for the Caswell County Landfill and the development of an assessment plan to address the regulatory requirements associated with the 2L Standard exceedances.

## **6.0 REFERENCES**

Fetter, C. W., 1988, Applied Hydrogeology, New York; Macmillian Publishing Company, 1988, 592 pp.

North Carolina Administrative Code, Title 15A, Department of Environment, Health and Natural Resources, Division of Environmental Management, Subchapter 2L, Classifications and Water Quality Standards Applicable to the Groundwaters of North Carolina, Sections .0100, .0200, and .0300 (January 1, 2010); from the Environmental Management Commission Raleigh, North Carolina.

North Carolina Administrative Code, Title 15A, Department of Environment, Health and Natural Resources, Division of Environmental Management, Subchapter 2B, Classifications and Water Quality Standards Applicable to the Surface Waters of North Carolina, Section .0200 (May 2013); from the Environmental Management Commission, Raleigh, North Carolina.

North Carolina Administrative Code, Title 15A, Department of Environment, Health and Natural Resources, Division of Solid Waste Management, subchapter 13B, Solid Waste Management, Section .1600 (January 1, 1997).

## **TABLES**

**TABLE 1**  
**GROUNDWATER ELEVATION SUMMARY**  
**CASWELL COUNTY LANDFILL**  
**YANCEYVILLE, NORTH CAROLINA**  
**S&ME PROJECT NO. 1584-07-034**

Static Water Levels				
Well No.	Ground Surface Elevation (topographic)	Depth of Well (feet)	September 11, 2013	
			(feet)	Elevation (feet)
MW-1	572	24.5	18.08	553.9
MW-2	526	22.3	20.83	505.2
MW-3	511	17.8	12.17	498.8
MW-4	526	36.0	24.69	501.3
MW-5	498	24.7	9.93	488.1
MW-6	489	16.2	7.32	481.7

*Topographic = ground elevation estimated from topographic map w/2 foot contour interval,  
not a surveyed elevation*

*Depth of well data as measured by S&ME Inc. personnel on date of sampling*

*DTGW = Depth to Groundwater*

*Elevation = calculated groundwater elevation (rounded to nearest 0.1 foot)*

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS SUMMARY (9/11/13)**  
**APPENDIX I - VOLATILE ORGANIC COMPOUNDS**  
**CASWELL COUNTY LANDFILL**  
**YANCEYVILLE, NORTH CAROLINA**  
**S&ME PROJECT NO. 1584-07-034**

Compound	Sample Locations							NC SWSL (ug/L)	NCAC 2L stds. (ug/L)
	MW-1 (ug/L)	MW-2 (ug/L)	MW-3 (ug/L)	MW-4 (ug/L)	MW-5 (ug/L)	MW-6 (ug/L)	Duplicate (ug/L)		
Benzene	ND	1.3	0.26 J	0.78 J	0.60 J	ND	ND	1	1
Chlorobenzene	ND	27.9	5.0	21.3	2.7	ND	ND	3	50
1,2-Dichlorobenzene	ND	2.4	0.34 J	1.9	0.58J	ND	ND	5	20
1,4-Dichlorobenzene	ND	14.8	2.6	12.5	3.9	ND	ND	1	6
1,1-Dichloroethane	ND	ND	ND	ND	0.54 J	ND	ND	5	6
cis-1,2-Dichloroethene	ND	0.27 J	ND	0.36 J	0.26 J	ND	ND	5	70
4-Methyl-2-pentanone(MIBK)	ND	0.82 J	ND	ND	ND	ND	ND	100	560*
Toluene	ND	0.61 J	ND	ND	ND	ND	ND	1	600

*NCAC 2L stds. = 15A North Carolina Administrative Code 2L .0200, GW Quality Standards for Class GA groundwater.*

*\* = Interim Maximum Allowable Concentration (IMAC) listed in NCAC 2L, December 1, 2010*

*Orange highlights indicate a measurement higher than 2L standards.*

*J = Parameters are values between the detection limit and the NC SWSL.*

*DW = Dry well. No sample obtained for analysis*

*NC SWSL = North Carolina Solid Waste Section Limit*

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS SUMMARY (9/11/13)**  
**8-RCRA METALS**  
**CASWELL COUNTY LANDFILL**  
**YANCEYVILLE, NORTH CAROLINA**  
**S&ME PROJECT NO. 1584-07-034**

Constituent	Sample Locations							NC SWSL (ug/L)	NCAC 2L stds. (ug/L)
	MW-1 (ug/L)	MW-2 (ug/L)	MW-3 (ug/L)	MW-4 (ug/L)	MW-5 (ug/L)	MW-6 (ug/L)	Duplicate (ug/L)		
Arsenic	13.0	11.8	ND	7.7 J	ND	ND	ND	10	10
Barium	33.8	309	73.8	95.9	41.5	17.0	14.5	100	700
Chromium	ND	ND	ND	11.8	ND	ND	ND	1	10
Lead	ND	ND	ND	11.5	ND	ND	ND	5	15

*all concentrations reported in micrograms per liter (ug/L)*

*NC SWSL = North Carolina Solid Waste Section Limit*

*ND = Analyte not detected*

*NCAC 2L stds. = 15A North Carolina Administrative Code 2L .0200, GW Quality Standards for Class GA groundwater.*

*ns = no standard listed according to NCAC 2L*

*Orange highlights indicate a measurement higher than 2L standards.*

*J = Parameters are values between the detection limit and the NC SWSL.*

*DW = Dry well. No sample obtained for analysis*

**TABLE 4**  
**SURFACE WATER ANALYTICAL RESULTS SUMMARY (9/11/13)**  
**APPENDIX I - VOLATILE ORGANIC COMPOUNDS**  
**CASWELL COUNTY LANDFILL**  
**YANCEYVILLE, NORTH CAROLINA**  
**S&ME PROJECT NO. 1584-07-034**

Compound	Sample Locations		NC SWSL (ug/L)	15A NCAC 2B Standards* (ug/L)
	SW-1 (ug/L) up-stream	SW-2 (ug/L) down-stream		
All Target Compounds	ND	ND	--	--

*NC SWSL= North Carolina Solid Waste Section Limit*

*ND = compound not detected in sample*

*\* = Title 15A NCAC 2B Standards for Class B, C surface water*

**TABLE 5**  
**SURFACE WATER ANALYTICAL RESULTS SUMMARY (9/11/13)**  
**8-RCRA METALS**  
**CASWELL COUNTY LANDFILL**  
**YANCEYVILLE, NORTH CAROLINA**  
**S&ME PROJECT NO. 1584-07-034**

Constituent	Sample Locations		NC SWSL (ug/L)	15A NCAC 2B Standards* (ug/L)
	SW-1 (ug/L) up-stream	SW-2 (ug/L) down-stream		
Barium	29.8	33.4	100	1000

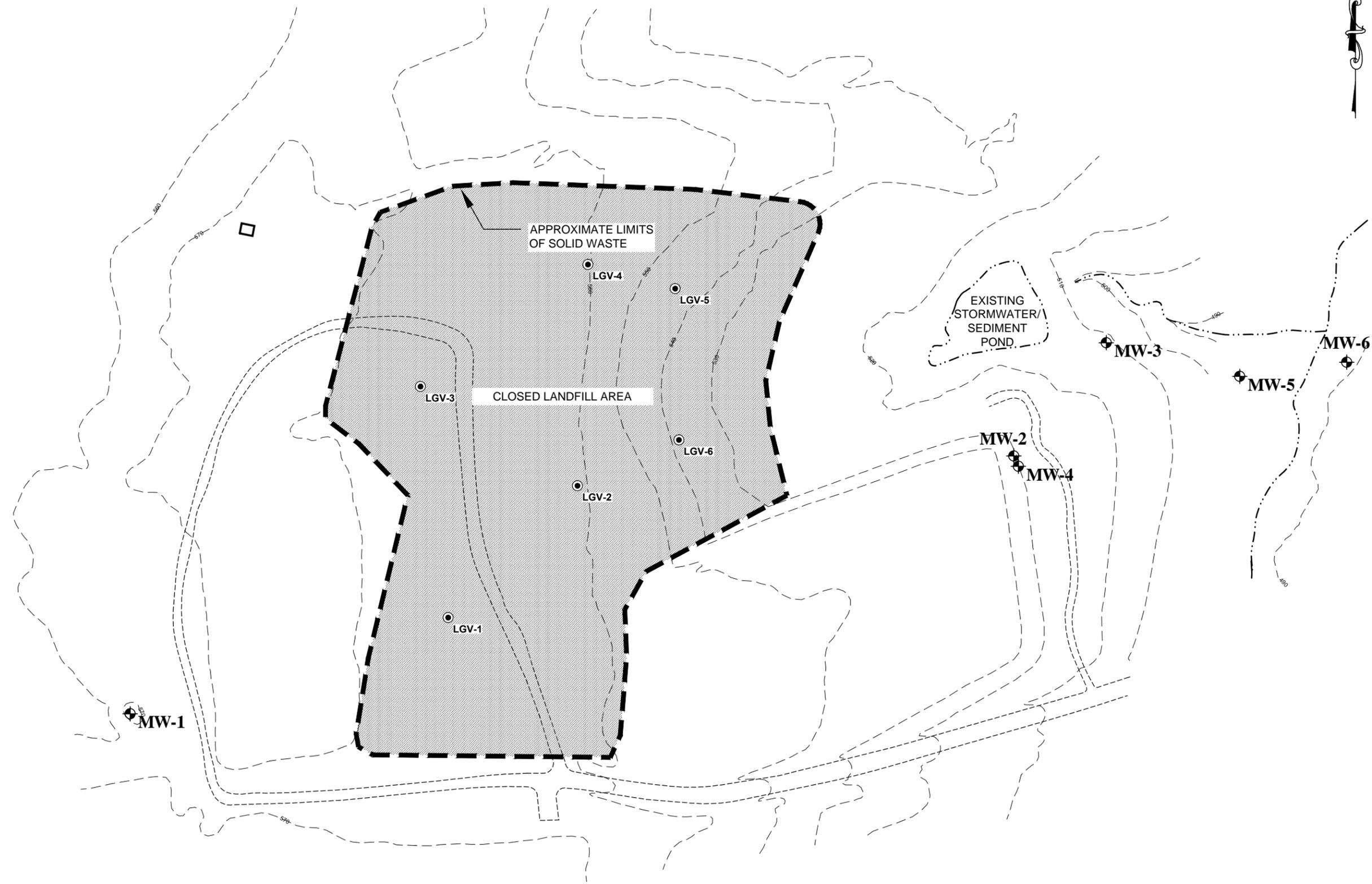
*NC SWSL = North Carolina Solid Waste Section Limit*

*ND = Parameter not detected*

*\* = Title 15A NCAC 2B Standards for Class B, C surface water*

*J = Parameters are estimated values between the detection limit and the NC SWSL.*

## **FIGURES**



**KEY**  
 ◆ - MONITORING WELL LOCATION  
 ● - APPROXIMATE LOCATION OF LANDFILL GAS VENTS

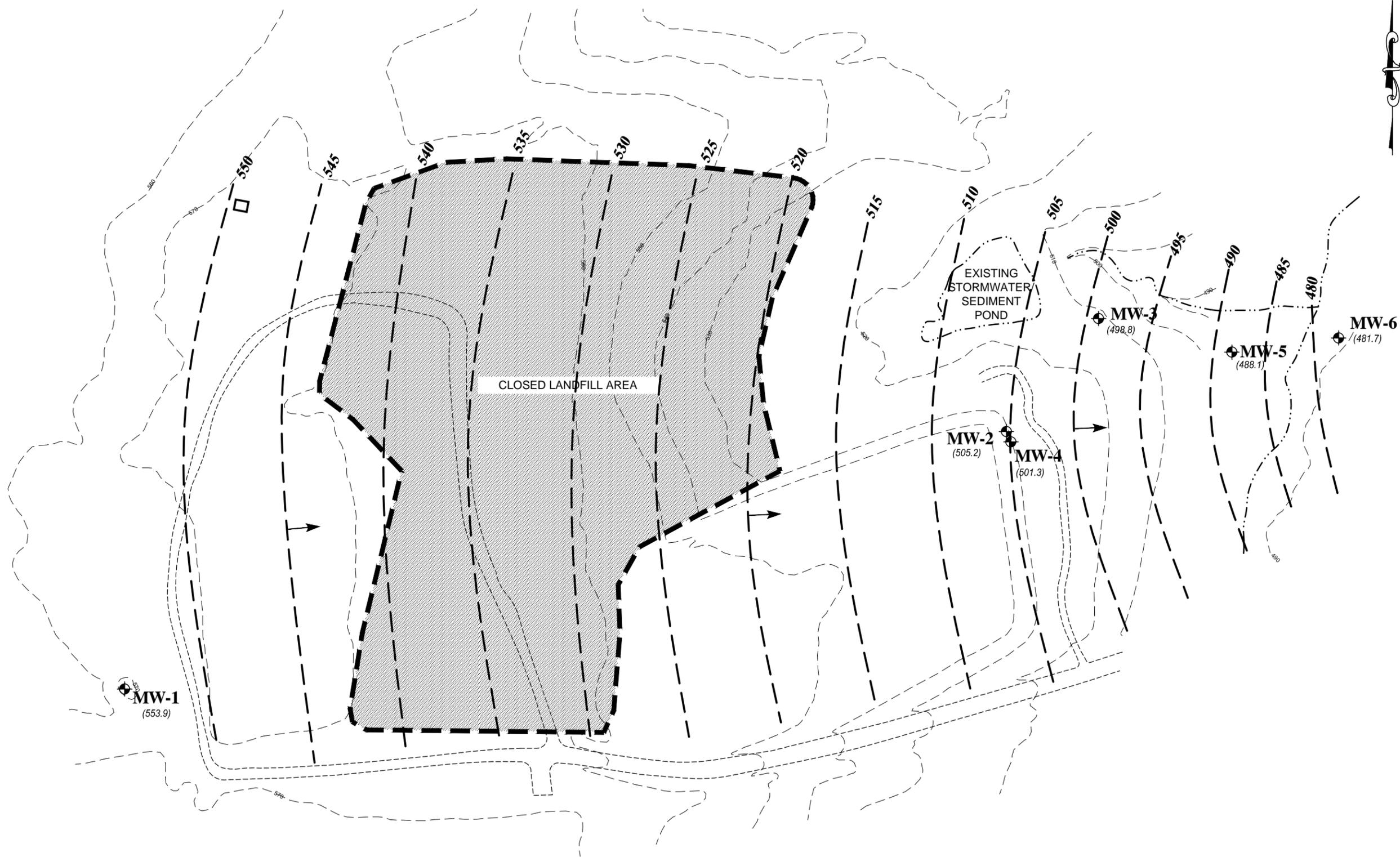


**SITE PLAN**  
 CASWELL COUNTY LANDFILL  
 YANCEYVILLE, NORTH CAROLINA

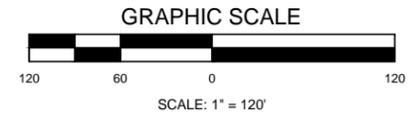
SCALE: AS SHOWN	DRAWN BY: RDM	CHECKED BY: CDW
JOB NO. 1584-07-034	DATE: OCTOBER 2013	FIGURE NO. 1

3718 OLD BATTLEGROUND ROAD  
 GREENSBORO, NC 27410  
 PH. 336-288-7180  
 FAX. 336-288-8980  
 WWW.SMEINC.COM





- KEY**
- ◆ - MONITORING WELL LOCATION
  - - - - GROUNDWATER CONTOUR
  - (505.2) - GROUNDWATER ELEVATION MEASURED IN MONITORING WELL
  - ← - GROUNDWATER FLOW DIRECTION



**GROUNDWATER CONTOUR MAP**  
 CASWELL COUNTY LANDFILL  
 YANCEYVILLE, NORTH CAROLINA

SCALE: AS SHOWN	DRAWN BY: RDM	CHECKED BY: EQBH
JOB NO. 1584-07-034	DATE: OCTOBER 2013	FIGURE NO. 2

3718 OLD BATTLEGROUND ROAD  
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# **APPENDIX**

**APPENDIX A**  
**Groundwater Sampling Field Data Sheets**















**APPENDIX B**  
**Laboratory Analytical Reports**



Pace Analytical Services, Inc.  
205 East Meadow Road - Suite A  
Eden, NC 27288  
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Pace Analytical Services, Inc.  
2225 Riverside Dr.  
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Pace Analytical Services, Inc.  
9800 Kinsey Ave. Suite 100  
Huntersville, NC 28078  
(704)875-9092

September 20, 2013

Mr. Kevin Howard  
Caswell County Landfill  
162 Landfill Road  
Yanceyville, NC 27379

RE: Project: Caswell Co. Landfill  
Pace Project No.: 92171975

Dear Mr. Howard:

Enclosed are the analytical results for sample(s) received by the laboratory on September 12, 2013. 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,

*Angela M. Baioni*

Angela Baioni

angela.baioni@pacelabs.com  
Project Manager

Enclosures



### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, Inc..



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## CERTIFICATIONS

Project: Caswell Co. Landfill  
 Pace Project No.: 92171975

---

**Charlotte Certification IDs**

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
 North Carolina Drinking Water Certification #: 37706  
 North Carolina Field Services Certification #: 5342  
 North Carolina Wastewater Certification #: 12  
 South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627  
 Kentucky UST Certification #: 84  
 West Virginia Certification #: 357  
 Virginia/VELAP Certification #: 460221

---

**Asheville Certification IDs**

2225 Riverside Dr., Asheville, NC 28804  
 Florida/NELAP Certification #: E87648  
 Massachusetts Certification #: M-NC030  
 North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
 South Carolina Certification #: 99030001  
 West Virginia Certification #: 356  
 Virginia/VELAP Certification #: 460222

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: Caswell Co. Landfill  
Pace Project No.: 92171975

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92171975001	1701-SW1	Water	09/11/13 10:00	09/12/13 14:12
92171975002	1701-SW2	Water	09/11/13 11:30	09/12/13 14:12
92171975003	1701-MW1	Water	09/11/13 09:30	09/12/13 14:12
92171975004	1701-MW2	Water	09/11/13 10:30	09/12/13 14:12
92171975005	1701-MW3	Water	09/11/13 14:45	09/12/13 14:12
92171975006	1701-MW4	Water	09/11/13 11:15	09/12/13 14:12
92171975007	1701-MW5	Water	09/11/13 15:00	09/12/13 14:12
92171975008	1701-MW6	Water	09/11/13 12:30	09/12/13 14:12
92171975009	1701-DUP	Water	09/11/13 12:50	09/12/13 14:12
92171975010	1701-TB	Water	09/11/13 00:00	09/12/13 14:12

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### SAMPLE ANALYTE COUNT

Project: Caswell Co. Landfill

Pace Project No.: 92171975

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92171975001	1701-SW1	EPA 6010	SH1	7	PASI-A
		EPA 7470	MTS	1	PASI-A
		EPA 8260	MCK	51	PASI-C
92171975002	1701-SW2	EPA 6010	SH1	7	PASI-A
		EPA 7470	MTS	1	PASI-A
		EPA 8260	MCK	51	PASI-C
92171975003	1701-MW1	EPA 6010	SH1	7	PASI-A
		EPA 7470	MTS	1	PASI-A
		EPA 8260	MCK	51	PASI-C
92171975004	1701-MW2	EPA 6010	SH1	7	PASI-A
		EPA 7470	MTS	1	PASI-A
		EPA 8260	MCK	51	PASI-C
92171975005	1701-MW3	EPA 6010	SH1	7	PASI-A
		EPA 7470	MTS	1	PASI-A
		EPA 8260	MCK	51	PASI-C
92171975006	1701-MW4	EPA 6010	JMW, SH1	7	PASI-A
		EPA 7470	MTS	1	PASI-A
		EPA 8260	MCK	51	PASI-C
92171975007	1701-MW5	EPA 6010	JMW, SH1	7	PASI-A
		EPA 7470	MTS	1	PASI-A
		EPA 8260	MCK	51	PASI-C
92171975008	1701-MW6	EPA 6010	JMW, SH1	7	PASI-A
		EPA 7470	MTS	1	PASI-A
		EPA 8260	MCK	51	PASI-C
92171975009	1701-DUP	EPA 6010	JMW, SH1	7	PASI-A
		EPA 7470	MTS	1	PASI-A
		EPA 8260	MCK	51	PASI-C
92171975010	1701-TB	EPA 8260	MCK	51	PASI-C

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### ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-SW1**      **Lab ID: 92171975001**      Collected: 09/11/13 10:00      Received: 09/12/13 14:12      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					
Arsenic	ND	ug/L	10.0	5.0	1	09/13/13 09:50	09/15/13 21:43	7440-38-2	
Barium	<b>29.8</b>	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:43	7440-39-3	
Cadmium	ND	ug/L	1.0	1.0	1	09/13/13 09:50	09/15/13 21:43	7440-43-9	
Chromium	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:43	7440-47-3	
Lead	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:43	7439-92-1	
Selenium	ND	ug/L	10.0	10.0	1	09/13/13 09:50	09/15/13 21:43	7782-49-2	
Silver	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:43	7440-22-4	
<b>7470 Mercury</b>		Analytical Method: EPA 7470		Preparation Method: EPA 7470					
Mercury	ND	ug/L	0.20	0.10	1	09/13/13 19:40	09/17/13 14:44	7439-97-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		09/17/13 03:29	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1.9	1		09/17/13 03:29	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		09/17/13 03:29	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		09/17/13 03:29	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/17/13 03:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		09/17/13 03:29	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		09/17/13 03:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		09/17/13 03:29	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		09/17/13 03:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		09/17/13 03:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/17/13 03:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		09/17/13 03:29	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		09/17/13 03:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		09/17/13 03:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		09/17/13 03:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		09/17/13 03:29	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		09/17/13 03:29	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		09/17/13 03:29	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		09/17/13 03:29	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1.0	1		09/17/13 03:29	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		09/17/13 03:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		09/17/13 03:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		09/17/13 03:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		09/17/13 03:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		09/17/13 03:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		09/17/13 03:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/17/13 03:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		09/17/13 03:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		09/17/13 03:29	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		09/17/13 03:29	591-78-6	
Iodomethane	ND	ug/L	5.0	0.32	1		09/17/13 03:29	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		09/17/13 03:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		09/17/13 03:29	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		09/17/13 03:29	100-42-5	

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### ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-SW1**      **Lab ID: 92171975001**      Collected: 09/11/13 10:00      Received: 09/12/13 14:12      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									
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		09/17/13 03:29	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		09/17/13 03:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		09/17/13 03:29	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		09/17/13 03:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		09/17/13 03:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		09/17/13 03:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		09/17/13 03:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		09/17/13 03:29	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		09/17/13 03:29	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		09/17/13 03:29	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		09/17/13 03:29	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		09/17/13 03:29	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/17/13 03:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		09/17/13 03:29	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99 %		70-130		1		09/17/13 03:29	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		09/17/13 03:29	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		09/17/13 03:29	2037-26-5	

**Sample: 1701-SW2**      **Lab ID: 92171975002**      Collected: 09/11/13 11:30      Received: 09/12/13 14:12      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									
Arsenic	ND	ug/L	10.0	5.0	1	09/13/13 09:50	09/15/13 21:46	7440-38-2	
Barium	33.4	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:46	7440-39-3	
Cadmium	ND	ug/L	1.0	1.0	1	09/13/13 09:50	09/15/13 21:46	7440-43-9	
Chromium	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:46	7440-47-3	
Lead	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:46	7439-92-1	
Selenium	ND	ug/L	10.0	10.0	1	09/13/13 09:50	09/15/13 21:46	7782-49-2	
Silver	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:46	7440-22-4	
<b>7470 Mercury</b> Analytical Method: EPA 7470      Preparation Method: EPA 7470									
Mercury	ND	ug/L	0.20	0.10	1	09/13/13 19:40	09/17/13 14:47	7439-97-6	
<b>8260 MSV Low Level Landfill</b> Analytical Method: EPA 8260									
Acetone	ND	ug/L	25.0	10.0	1		09/17/13 03:45	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1.9	1		09/17/13 03:45	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		09/17/13 03:45	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		09/17/13 03:45	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/17/13 03:45	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		09/17/13 03:45	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		09/17/13 03:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		09/17/13 03:45	78-93-3	

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## ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-SW2**      **Lab ID: 92171975002**      Collected: 09/11/13 11:30      Received: 09/12/13 14:12      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									
Carbon disulfide	ND	ug/L	2.0	1.2	1		09/17/13 03:45	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		09/17/13 03:45	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/17/13 03:45	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		09/17/13 03:45	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		09/17/13 03:45	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		09/17/13 03:45	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		09/17/13 03:45	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		09/17/13 03:45	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		09/17/13 03:45	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		09/17/13 03:45	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		09/17/13 03:45	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1.0	1		09/17/13 03:45	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		09/17/13 03:45	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		09/17/13 03:45	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		09/17/13 03:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		09/17/13 03:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		09/17/13 03:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		09/17/13 03:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/17/13 03:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		09/17/13 03:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		09/17/13 03:45	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		09/17/13 03:45	591-78-6	
Iodomethane	ND	ug/L	5.0	0.32	1		09/17/13 03:45	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		09/17/13 03:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		09/17/13 03:45	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		09/17/13 03:45	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		09/17/13 03:45	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		09/17/13 03:45	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		09/17/13 03:45	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		09/17/13 03:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		09/17/13 03:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		09/17/13 03:45	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		09/17/13 03:45	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		09/17/13 03:45	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		09/17/13 03:45	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		09/17/13 03:45	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		09/17/13 03:45	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		09/17/13 03:45	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/17/13 03:45	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		09/17/13 03:45	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99 %		70-130		1		09/17/13 03:45	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		09/17/13 03:45	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		09/17/13 03:45	2037-26-5	

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## ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-MW1**      **Lab ID: 92171975003**      Collected: 09/11/13 09:30      Received: 09/12/13 14:12      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							
Arsenic	13.0	ug/L	10.0	5.0	1	09/13/13 09:50	09/15/13 21:50	7440-38-2	
Barium	33.8	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:50	7440-39-3	
Cadmium	ND	ug/L	1.0	1.0	1	09/13/13 09:50	09/15/13 21:50	7440-43-9	
Chromium	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:50	7440-47-3	
Lead	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:50	7439-92-1	
Selenium	ND	ug/L	10.0	10.0	1	09/13/13 09:50	09/15/13 21:50	7782-49-2	
Silver	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:50	7440-22-4	
<b>7470 Mercury</b>		Analytical Method: EPA 7470      Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	0.10	1	09/13/13 19:40	09/17/13 14:49	7439-97-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		09/17/13 04:01	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1.9	1		09/17/13 04:01	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		09/17/13 04:01	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		09/17/13 04:01	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/17/13 04:01	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		09/17/13 04:01	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		09/17/13 04:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		09/17/13 04:01	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		09/17/13 04:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		09/17/13 04:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/17/13 04:01	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		09/17/13 04:01	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		09/17/13 04:01	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		09/17/13 04:01	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		09/17/13 04:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		09/17/13 04:01	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		09/17/13 04:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		09/17/13 04:01	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		09/17/13 04:01	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1.0	1		09/17/13 04:01	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		09/17/13 04:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		09/17/13 04:01	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		09/17/13 04:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		09/17/13 04:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		09/17/13 04:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		09/17/13 04:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/17/13 04:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		09/17/13 04:01	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		09/17/13 04:01	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		09/17/13 04:01	591-78-6	
Iodomethane	ND	ug/L	5.0	0.32	1		09/17/13 04:01	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		09/17/13 04:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		09/17/13 04:01	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		09/17/13 04:01	100-42-5	

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### ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

Sample: 1701-MW1									
Lab ID: 92171975003									
Collected: 09/11/13 09:30									
Received: 09/12/13 14:12									
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									
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		09/17/13 04:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		09/17/13 04:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		09/17/13 04:01	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		09/17/13 04:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		09/17/13 04:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		09/17/13 04:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		09/17/13 04:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		09/17/13 04:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		09/17/13 04:01	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		09/17/13 04:01	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		09/17/13 04:01	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		09/17/13 04:01	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/17/13 04:01	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		09/17/13 04:01	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	98 %		70-130		1		09/17/13 04:01	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		09/17/13 04:01	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		09/17/13 04:01	2037-26-5	

Sample: 1701-MW2									
Lab ID: 92171975004									
Collected: 09/11/13 10:30									
Received: 09/12/13 14:12									
Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 ICP Groundwater</b>									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Arsenic	11.8	ug/L	10.0	5.0	1	09/13/13 09:50	09/15/13 21:53	7440-38-2	
Barium	309	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:53	7440-39-3	
Cadmium	ND	ug/L	1.0	1.0	1	09/13/13 09:50	09/15/13 21:53	7440-43-9	
Chromium	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:53	7440-47-3	
Lead	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:53	7439-92-1	
Selenium	ND	ug/L	10.0	10.0	1	09/13/13 09:50	09/15/13 21:53	7782-49-2	
Silver	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:53	7440-22-4	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Mercury	ND	ug/L	0.20	0.10	1	09/13/13 19:40	09/17/13 14:57	7439-97-6	
<b>8260 MSV Low Level Landfill</b>									
Analytical Method: EPA 8260									
Acetone	ND	ug/L	25.0	10.0	1		09/17/13 04:17	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1.9	1		09/17/13 04:17	107-13-1	
Benzene	1.3	ug/L	1.0	0.25	1		09/17/13 04:17	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		09/17/13 04:17	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/17/13 04:17	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		09/17/13 04:17	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		09/17/13 04:17	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		09/17/13 04:17	78-93-3	

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## ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-MW2**      **Lab ID: 92171975004**      Collected: 09/11/13 10:30      Received: 09/12/13 14:12      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									
Carbon disulfide	ND	ug/L	2.0	1.2	1		09/17/13 04:17	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		09/17/13 04:17	56-23-5	
Chlorobenzene	<b>27.9</b>	ug/L	1.0	0.23	1		09/17/13 04:17	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		09/17/13 04:17	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		09/17/13 04:17	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		09/17/13 04:17	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		09/17/13 04:17	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		09/17/13 04:17	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		09/17/13 04:17	74-95-3	
1,2-Dichlorobenzene	<b>2.4</b>	ug/L	1.0	0.30	1		09/17/13 04:17	95-50-1	
1,4-Dichlorobenzene	<b>14.8</b>	ug/L	1.0	0.33	1		09/17/13 04:17	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1.0	1		09/17/13 04:17	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		09/17/13 04:17	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		09/17/13 04:17	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		09/17/13 04:17	75-35-4	
cis-1,2-Dichloroethene	<b>0.27J</b>	ug/L	1.0	0.19	1		09/17/13 04:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		09/17/13 04:17	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		09/17/13 04:17	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/17/13 04:17	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		09/17/13 04:17	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		09/17/13 04:17	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		09/17/13 04:17	591-78-6	
Iodomethane	ND	ug/L	5.0	0.32	1		09/17/13 04:17	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		09/17/13 04:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	<b>0.82J</b>	ug/L	5.0	0.33	1		09/17/13 04:17	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		09/17/13 04:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		09/17/13 04:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		09/17/13 04:17	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		09/17/13 04:17	127-18-4	
Toluene	<b>0.61J</b>	ug/L	1.0	0.26	1		09/17/13 04:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		09/17/13 04:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		09/17/13 04:17	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		09/17/13 04:17	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		09/17/13 04:17	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		09/17/13 04:17	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		09/17/13 04:17	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		09/17/13 04:17	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		09/17/13 04:17	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/17/13 04:17	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		09/17/13 04:17	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97 %		70-130		1		09/17/13 04:17	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		70-130		1		09/17/13 04:17	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		09/17/13 04:17	2037-26-5	

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## ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-MW3**      **Lab ID: 92171975005**      Collected: 09/11/13 14:45      Received: 09/12/13 14:12      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							
Arsenic	ND	ug/L	10.0	5.0	1	09/13/13 09:50	09/15/13 21:56	7440-38-2	
Barium	<b>73.8</b>	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:56	7440-39-3	
Cadmium	ND	ug/L	1.0	1.0	1	09/13/13 09:50	09/15/13 21:56	7440-43-9	
Chromium	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:56	7440-47-3	
Lead	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:56	7439-92-1	
Selenium	ND	ug/L	10.0	10.0	1	09/13/13 09:50	09/15/13 21:56	7782-49-2	
Silver	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/15/13 21:56	7440-22-4	
<b>7470 Mercury</b>		Analytical Method: EPA 7470      Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	0.10	1	09/13/13 19:40	09/17/13 15:00	7439-97-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		09/17/13 04:33	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1.9	1		09/17/13 04:33	107-13-1	
Benzene	<b>0.26J</b>	ug/L	1.0	0.25	1		09/17/13 04:33	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		09/17/13 04:33	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/17/13 04:33	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		09/17/13 04:33	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		09/17/13 04:33	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		09/17/13 04:33	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		09/17/13 04:33	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		09/17/13 04:33	56-23-5	
Chlorobenzene	<b>5.0</b>	ug/L	1.0	0.23	1		09/17/13 04:33	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		09/17/13 04:33	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		09/17/13 04:33	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		09/17/13 04:33	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		09/17/13 04:33	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		09/17/13 04:33	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		09/17/13 04:33	74-95-3	
1,2-Dichlorobenzene	<b>0.34J</b>	ug/L	1.0	0.30	1		09/17/13 04:33	95-50-1	
1,4-Dichlorobenzene	<b>2.6</b>	ug/L	1.0	0.33	1		09/17/13 04:33	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1.0	1		09/17/13 04:33	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		09/17/13 04:33	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		09/17/13 04:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		09/17/13 04:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		09/17/13 04:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		09/17/13 04:33	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		09/17/13 04:33	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/17/13 04:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		09/17/13 04:33	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		09/17/13 04:33	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		09/17/13 04:33	591-78-6	
Iodomethane	ND	ug/L	5.0	0.32	1		09/17/13 04:33	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		09/17/13 04:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		09/17/13 04:33	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		09/17/13 04:33	100-42-5	

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### ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

Sample: 1701-MW3									
Lab ID: 92171975005									
Collected: 09/11/13 14:45									
Received: 09/12/13 14:12									
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									
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		09/17/13 04:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		09/17/13 04:33	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		09/17/13 04:33	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		09/17/13 04:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		09/17/13 04:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		09/17/13 04:33	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		09/17/13 04:33	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		09/17/13 04:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		09/17/13 04:33	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		09/17/13 04:33	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		09/17/13 04:33	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		09/17/13 04:33	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/17/13 04:33	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		09/17/13 04:33	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99 %		70-130		1		09/17/13 04:33	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		70-130		1		09/17/13 04:33	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		09/17/13 04:33	2037-26-5	

Sample: 1701-MW4									
Lab ID: 92171975006									
Collected: 09/11/13 11:15									
Received: 09/12/13 14:12									
Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 ICP Groundwater</b>									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Arsenic	7.7J	ug/L	10.0	5.0	1	09/13/13 09:50	09/16/13 18:48	7440-38-2	
Barium	95.9	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 18:48	7440-39-3	
Cadmium	ND	ug/L	1.0	1.0	1	09/13/13 09:50	09/16/13 18:48	7440-43-9	
Chromium	11.8	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 18:48	7440-47-3	
Lead	11.5	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 18:48	7439-92-1	
Selenium	ND	ug/L	10.0	10.0	1	09/13/13 09:50	09/18/13 19:08	7782-49-2	
Silver	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 18:48	7440-22-4	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Mercury	ND	ug/L	0.20	0.10	1	09/13/13 19:40	09/17/13 15:03	7439-97-6	
<b>8260 MSV Low Level Landfill</b>									
Analytical Method: EPA 8260									
Acetone	ND	ug/L	25.0	10.0	1		09/17/13 04:49	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1.9	1		09/17/13 04:49	107-13-1	
Benzene	0.78J	ug/L	1.0	0.25	1		09/17/13 04:49	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		09/17/13 04:49	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/17/13 04:49	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		09/17/13 04:49	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		09/17/13 04:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		09/17/13 04:49	78-93-3	

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### ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-MW4**      **Lab ID: 92171975006**      Collected: 09/11/13 11:15      Received: 09/12/13 14:12      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									
Carbon disulfide	ND	ug/L	2.0	1.2	1		09/17/13 04:49	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		09/17/13 04:49	56-23-5	
Chlorobenzene	<b>21.3</b>	ug/L	1.0	0.23	1		09/17/13 04:49	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		09/17/13 04:49	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		09/17/13 04:49	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		09/17/13 04:49	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		09/17/13 04:49	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		09/17/13 04:49	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		09/17/13 04:49	74-95-3	
1,2-Dichlorobenzene	<b>1.9</b>	ug/L	1.0	0.30	1		09/17/13 04:49	95-50-1	
1,4-Dichlorobenzene	<b>12.5</b>	ug/L	1.0	0.33	1		09/17/13 04:49	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1.0	1		09/17/13 04:49	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		09/17/13 04:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		09/17/13 04:49	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		09/17/13 04:49	75-35-4	
cis-1,2-Dichloroethene	<b>0.36J</b>	ug/L	1.0	0.19	1		09/17/13 04:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		09/17/13 04:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		09/17/13 04:49	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/17/13 04:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		09/17/13 04:49	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		09/17/13 04:49	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		09/17/13 04:49	591-78-6	
Iodomethane	ND	ug/L	5.0	0.32	1		09/17/13 04:49	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		09/17/13 04:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		09/17/13 04:49	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		09/17/13 04:49	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		09/17/13 04:49	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		09/17/13 04:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		09/17/13 04:49	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		09/17/13 04:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		09/17/13 04:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		09/17/13 04:49	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		09/17/13 04:49	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		09/17/13 04:49	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		09/17/13 04:49	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		09/17/13 04:49	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		09/17/13 04:49	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		09/17/13 04:49	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/17/13 04:49	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		09/17/13 04:49	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	96 %		70-130		1		09/17/13 04:49	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		70-130		1		09/17/13 04:49	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		09/17/13 04:49	2037-26-5	

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## ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-MW5**      **Lab ID: 92171975007**      Collected: 09/11/13 15:00      Received: 09/12/13 14:12      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							
Arsenic	ND	ug/L	10.0	5.0	1	09/13/13 09:50	09/16/13 18:51	7440-38-2	
Barium	<b>41.5</b>	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 18:51	7440-39-3	
Cadmium	ND	ug/L	1.0	1.0	1	09/13/13 09:50	09/16/13 18:51	7440-43-9	
Chromium	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 18:51	7440-47-3	
Lead	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 18:51	7439-92-1	
Selenium	ND	ug/L	10.0	10.0	1	09/13/13 09:50	09/18/13 19:11	7782-49-2	
Silver	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 18:51	7440-22-4	
<b>7470 Mercury</b>		Analytical Method: EPA 7470      Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	0.10	1	09/13/13 19:40	09/17/13 15:05	7439-97-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		09/17/13 05:04	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1.9	1		09/17/13 05:04	107-13-1	
Benzene	<b>0.60J</b>	ug/L	1.0	0.25	1		09/17/13 05:04	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		09/17/13 05:04	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/17/13 05:04	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		09/17/13 05:04	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		09/17/13 05:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		09/17/13 05:04	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		09/17/13 05:04	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		09/17/13 05:04	56-23-5	
Chlorobenzene	<b>2.7</b>	ug/L	1.0	0.23	1		09/17/13 05:04	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		09/17/13 05:04	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		09/17/13 05:04	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		09/17/13 05:04	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		09/17/13 05:04	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		09/17/13 05:04	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		09/17/13 05:04	74-95-3	
1,2-Dichlorobenzene	<b>0.58J</b>	ug/L	1.0	0.30	1		09/17/13 05:04	95-50-1	
1,4-Dichlorobenzene	<b>3.9</b>	ug/L	1.0	0.33	1		09/17/13 05:04	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1.0	1		09/17/13 05:04	110-57-6	
1,1-Dichloroethane	<b>0.54J</b>	ug/L	1.0	0.32	1		09/17/13 05:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		09/17/13 05:04	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		09/17/13 05:04	75-35-4	
cis-1,2-Dichloroethene	<b>0.26J</b>	ug/L	1.0	0.19	1		09/17/13 05:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		09/17/13 05:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		09/17/13 05:04	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/17/13 05:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		09/17/13 05:04	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		09/17/13 05:04	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		09/17/13 05:04	591-78-6	
Iodomethane	ND	ug/L	5.0	0.32	1		09/17/13 05:04	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		09/17/13 05:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		09/17/13 05:04	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		09/17/13 05:04	100-42-5	

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### ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-MW5**      **Lab ID: 92171975007**      Collected: 09/11/13 15:00      Received: 09/12/13 14:12      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									
1,1,1,2-Tetrachloroethane	ND ug/L		1.0	0.33	1		09/17/13 05:04	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	0.40	1		09/17/13 05:04	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		09/17/13 05:04	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		09/17/13 05:04	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		09/17/13 05:04	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		09/17/13 05:04	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		09/17/13 05:04	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		09/17/13 05:04	75-69-4	
1,2,3-Trichloropropane	ND ug/L		1.0	0.41	1		09/17/13 05:04	96-18-4	
Vinyl acetate	ND ug/L		2.0	0.35	1		09/17/13 05:04	108-05-4	
Vinyl chloride	ND ug/L		1.0	0.62	1		09/17/13 05:04	75-01-4	
Xylene (Total)	ND ug/L		2.0	0.66	1		09/17/13 05:04	1330-20-7	
m&p-Xylene	ND ug/L		2.0	0.66	1		09/17/13 05:04	179601-23-1	
o-Xylene	ND ug/L		1.0	0.23	1		09/17/13 05:04	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	98 %		70-130		1		09/17/13 05:04	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		70-130		1		09/17/13 05:04	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		09/17/13 05:04	2037-26-5	

**Sample: 1701-MW6**      **Lab ID: 92171975008**      Collected: 09/11/13 12:30      Received: 09/12/13 14:12      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									
Arsenic	ND ug/L		10.0	5.0	1	09/13/13 09:50	09/16/13 19:04	7440-38-2	
Barium	17.0 ug/L		5.0	5.0	1	09/13/13 09:50	09/16/13 19:04	7440-39-3	
Cadmium	ND ug/L		1.0	1.0	1	09/13/13 09:50	09/16/13 19:04	7440-43-9	
Chromium	ND ug/L		5.0	5.0	1	09/13/13 09:50	09/16/13 19:04	7440-47-3	
Lead	ND ug/L		5.0	5.0	1	09/13/13 09:50	09/16/13 19:04	7439-92-1	
Selenium	ND ug/L		10.0	10.0	1	09/13/13 09:50	09/18/13 19:14	7782-49-2	
Silver	ND ug/L		5.0	5.0	1	09/13/13 09:50	09/16/13 19:04	7440-22-4	
<b>7470 Mercury</b> Analytical Method: EPA 7470      Preparation Method: EPA 7470									
Mercury	ND ug/L		0.20	0.10	1	09/13/13 19:40	09/17/13 16:11	7439-97-6	
<b>8260 MSV Low Level Landfill</b> Analytical Method: EPA 8260									
Acetone	ND ug/L		25.0	10.0	1		09/17/13 05:20	67-64-1	
Acrylonitrile	ND ug/L		10.0	1.9	1		09/17/13 05:20	107-13-1	
Benzene	ND ug/L		1.0	0.25	1		09/17/13 05:20	71-43-2	
Bromochloromethane	ND ug/L		1.0	0.17	1		09/17/13 05:20	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		09/17/13 05:20	75-27-4	
Bromoform	ND ug/L		1.0	0.26	1		09/17/13 05:20	75-25-2	
Bromomethane	ND ug/L		2.0	0.29	1		09/17/13 05:20	74-83-9	
2-Butanone (MEK)	ND ug/L		5.0	0.96	1		09/17/13 05:20	78-93-3	

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## ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-MW6**      **Lab ID: 92171975008**      Collected: 09/11/13 12:30      Received: 09/12/13 14:12      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									
Carbon disulfide	ND	ug/L	2.0	1.2	1		09/17/13 05:20	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		09/17/13 05:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/17/13 05:20	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		09/17/13 05:20	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		09/17/13 05:20	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		09/17/13 05:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		09/17/13 05:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		09/17/13 05:20	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		09/17/13 05:20	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		09/17/13 05:20	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		09/17/13 05:20	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1.0	1		09/17/13 05:20	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		09/17/13 05:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		09/17/13 05:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		09/17/13 05:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		09/17/13 05:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		09/17/13 05:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		09/17/13 05:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/17/13 05:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		09/17/13 05:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		09/17/13 05:20	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		09/17/13 05:20	591-78-6	
Iodomethane	ND	ug/L	5.0	0.32	1		09/17/13 05:20	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		09/17/13 05:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		09/17/13 05:20	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		09/17/13 05:20	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.33	1		09/17/13 05:20	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		09/17/13 05:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		09/17/13 05:20	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		09/17/13 05:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		09/17/13 05:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		09/17/13 05:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		09/17/13 05:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		09/17/13 05:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		09/17/13 05:20	96-18-4	
Vinyl acetate	ND	ug/L	2.0	0.35	1		09/17/13 05:20	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		09/17/13 05:20	75-01-4	
Xylene (Total)	ND	ug/L	2.0	0.66	1		09/17/13 05:20	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		09/17/13 05:20	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		09/17/13 05:20	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101 %		70-130		1		09/17/13 05:20	460-00-4	
1,2-Dichloroethane-d4 (S)	104 %		70-130		1		09/17/13 05:20	17060-07-0	
Toluene-d8 (S)	95 %		70-130		1		09/17/13 05:20	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-DUP**      **Lab ID: 92171975009**      Collected: 09/11/13 12:50      Received: 09/12/13 14:12      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							
Arsenic	ND	ug/L	10.0	5.0	1	09/13/13 09:50	09/16/13 19:07	7440-38-2	
Barium	14.5	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 19:07	7440-39-3	
Cadmium	ND	ug/L	1.0	1.0	1	09/13/13 09:50	09/16/13 19:07	7440-43-9	
Chromium	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 19:07	7440-47-3	
Lead	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 19:07	7439-92-1	
Selenium	ND	ug/L	10.0	10.0	1	09/13/13 09:50	09/18/13 19:18	7782-49-2	
Silver	ND	ug/L	5.0	5.0	1	09/13/13 09:50	09/16/13 19:07	7440-22-4	
<b>7470 Mercury</b>		Analytical Method: EPA 7470      Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	0.10	1	09/13/13 19:40	09/17/13 16:19	7439-97-6	
<b>8260 MSV Low Level Landfill</b>		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		09/17/13 05:36	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1.9	1		09/17/13 05:36	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		09/17/13 05:36	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		09/17/13 05:36	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/17/13 05:36	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		09/17/13 05:36	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		09/17/13 05:36	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		09/17/13 05:36	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		09/17/13 05:36	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		09/17/13 05:36	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/17/13 05:36	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		09/17/13 05:36	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		09/17/13 05:36	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		09/17/13 05:36	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		09/17/13 05:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		09/17/13 05:36	106-93-4	
Dibromomethane	ND	ug/L	1.0	0.21	1		09/17/13 05:36	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		09/17/13 05:36	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		09/17/13 05:36	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1.0	1		09/17/13 05:36	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		09/17/13 05:36	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		09/17/13 05:36	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		09/17/13 05:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		09/17/13 05:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		09/17/13 05:36	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		09/17/13 05:36	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/17/13 05:36	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		09/17/13 05:36	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		09/17/13 05:36	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		09/17/13 05:36	591-78-6	
Iodomethane	ND	ug/L	5.0	0.32	1		09/17/13 05:36	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		09/17/13 05:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		09/17/13 05:36	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		09/17/13 05:36	100-42-5	

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### ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-DUP**      **Lab ID: 92171975009**      Collected: 09/11/13 12:50      Received: 09/12/13 14:12      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									
1,1,1,2-Tetrachloroethane	ND ug/L		1.0	0.33	1		09/17/13 05:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	0.40	1		09/17/13 05:36	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		09/17/13 05:36	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		09/17/13 05:36	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		09/17/13 05:36	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		09/17/13 05:36	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		09/17/13 05:36	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		09/17/13 05:36	75-69-4	
1,2,3-Trichloropropane	ND ug/L		1.0	0.41	1		09/17/13 05:36	96-18-4	
Vinyl acetate	ND ug/L		2.0	0.35	1		09/17/13 05:36	108-05-4	
Vinyl chloride	ND ug/L		1.0	0.62	1		09/17/13 05:36	75-01-4	
Xylene (Total)	ND ug/L		2.0	0.66	1		09/17/13 05:36	1330-20-7	
m&p-Xylene	ND ug/L		2.0	0.66	1		09/17/13 05:36	179601-23-1	
o-Xylene	ND ug/L		1.0	0.23	1		09/17/13 05:36	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	103 %		70-130		1		09/17/13 05:36	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		70-130		1		09/17/13 05:36	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		09/17/13 05:36	2037-26-5	

**Sample: 1701-TB**      **Lab ID: 92171975010**      Collected: 09/11/13 00:00      Received: 09/12/13 14:12      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		25.0	10.0	1		09/17/13 05:52	67-64-1	
Acrylonitrile	ND ug/L		10.0	1.9	1		09/17/13 05:52	107-13-1	
Benzene	ND ug/L		1.0	0.25	1		09/17/13 05:52	71-43-2	
Bromochloromethane	ND ug/L		1.0	0.17	1		09/17/13 05:52	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		09/17/13 05:52	75-27-4	
Bromoform	ND ug/L		1.0	0.26	1		09/17/13 05:52	75-25-2	
Bromomethane	ND ug/L		2.0	0.29	1		09/17/13 05:52	74-83-9	
2-Butanone (MEK)	ND ug/L		5.0	0.96	1		09/17/13 05:52	78-93-3	
Carbon disulfide	ND ug/L		2.0	1.2	1		09/17/13 05:52	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.25	1		09/17/13 05:52	56-23-5	
Chlorobenzene	ND ug/L		1.0	0.23	1		09/17/13 05:52	108-90-7	
Chloroethane	ND ug/L		1.0	0.54	1		09/17/13 05:52	75-00-3	
Chloroform	ND ug/L		1.0	0.14	1		09/17/13 05:52	67-66-3	
Chloromethane	ND ug/L		1.0	0.11	1		09/17/13 05:52	74-87-3	
Dibromochloromethane	ND ug/L		1.0	0.21	1		09/17/13 05:52	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	0.27	1		09/17/13 05:52	106-93-4	
Dibromomethane	ND ug/L		1.0	0.21	1		09/17/13 05:52	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	0.30	1		09/17/13 05:52	95-50-1	
1,4-Dichlorobenzene	ND ug/L		1.0	0.33	1		09/17/13 05:52	106-46-7	
trans-1,4-Dichloro-2-butene	ND ug/L		1.0	1.0	1		09/17/13 05:52	110-57-6	

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## ANALYTICAL RESULTS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

**Sample: 1701-TB**      **Lab ID: 92171975010**      Collected: 09/11/13 00:00      Received: 09/12/13 14:12      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							
1,1-Dichloroethane	ND ug/L		1.0	0.32	1		09/17/13 05:52	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.12	1		09/17/13 05:52	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		09/17/13 05:52	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		09/17/13 05:52	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		09/17/13 05:52	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.27	1		09/17/13 05:52	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.13	1		09/17/13 05:52	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		09/17/13 05:52	10061-02-6	
Ethylbenzene	ND ug/L		1.0	0.30	1		09/17/13 05:52	100-41-4	
2-Hexanone	ND ug/L		5.0	0.46	1		09/17/13 05:52	591-78-6	
Iodomethane	ND ug/L		5.0	0.32	1		09/17/13 05:52	74-88-4	
Methylene Chloride	ND ug/L		1.0	0.97	1		09/17/13 05:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		5.0	0.33	1		09/17/13 05:52	108-10-1	
Styrene	ND ug/L		1.0	0.26	1		09/17/13 05:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		1.0	0.33	1		09/17/13 05:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	0.40	1		09/17/13 05:52	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		09/17/13 05:52	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		09/17/13 05:52	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		09/17/13 05:52	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		09/17/13 05:52	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		09/17/13 05:52	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		09/17/13 05:52	75-69-4	
1,2,3-Trichloropropane	ND ug/L		1.0	0.41	1		09/17/13 05:52	96-18-4	
Vinyl acetate	ND ug/L		2.0	0.35	1		09/17/13 05:52	108-05-4	
Vinyl chloride	ND ug/L		1.0	0.62	1		09/17/13 05:52	75-01-4	
Xylene (Total)	ND ug/L		2.0	0.66	1		09/17/13 05:52	1330-20-7	
m&p-Xylene	ND ug/L		2.0	0.66	1		09/17/13 05:52	179601-23-1	
o-Xylene	ND ug/L		1.0	0.23	1		09/17/13 05:52	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100 %		70-130		1		09/17/13 05:52	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		70-130		1		09/17/13 05:52	17060-07-0	
Toluene-d8 (S)	96 %		70-130		1		09/17/13 05:52	2037-26-5	

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**QUALITY CONTROL DATA**

Project: Caswell Co. Landfill  
 Pace Project No.: 92171975

QC Batch: MERP/5586 Analysis Method: EPA 7470  
 QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury  
 Associated Lab Samples: 92171975001, 92171975002, 92171975003, 92171975004, 92171975005, 92171975006, 92171975007

METHOD BLANK: 1047272 Matrix: Water  
 Associated Lab Samples: 92171975001, 92171975002, 92171975003, 92171975004, 92171975005, 92171975006, 92171975007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/17/13 13:54	

LABORATORY CONTROL SAMPLE: 1047273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1047274 1047275

Parameter	Units	92171855001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.6	2.7	100	103	75-125	3	25	

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**QUALITY CONTROL DATA**

Project: Caswell Co. Landfill  
 Pace Project No.: 92171975

QC Batch: MERP/5587 Analysis Method: EPA 7470  
 QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury  
 Associated Lab Samples: 92171975008, 92171975009

METHOD BLANK: 1047289 Matrix: Water  
 Associated Lab Samples: 92171975008, 92171975009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/17/13 16:06	

LABORATORY CONTROL SAMPLE: 1047290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1047291 1047292

Parameter	Units	92171975008 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Mercury	ug/L	ND	2.5	2.5	2.5	2.4	97	95	75-125	2	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1048859 1048860

Parameter	Units	92171951009 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Mercury	ug/L	ND	2.5	2.5	2.3	2.5	87	95	75-125	9	25

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### QUALITY CONTROL DATA

Project: Caswell Co. Landfill  
Pace Project No.: 92171975

QC Batch: MPRP/14178 Analysis Method: EPA 6010  
QC Batch Method: EPA 3010 Analysis Description: 6010 MET NC Groundwater  
Associated Lab Samples: 92171975001, 92171975002, 92171975003, 92171975004, 92171975005, 92171975006, 92171975007, 92171975008, 92171975009

METHOD BLANK: 1046401 Matrix: Water  
Associated Lab Samples: 92171975001, 92171975002, 92171975003, 92171975004, 92171975005, 92171975006, 92171975007, 92171975008, 92171975009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	09/15/13 21:29	
Barium	ug/L	ND	5.0	09/15/13 21:29	
Cadmium	ug/L	ND	1.0	09/15/13 21:29	
Chromium	ug/L	ND	5.0	09/15/13 21:29	
Lead	ug/L	ND	5.0	09/15/13 21:29	
Selenium	ug/L	ND	10.0	09/15/13 21:29	
Silver	ug/L	ND	5.0	09/15/13 21:29	

LABORATORY CONTROL SAMPLE: 1046402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	484	97	80-120	
Barium	ug/L	500	524	105	80-120	
Cadmium	ug/L	500	501	100	80-120	
Chromium	ug/L	500	505	101	80-120	
Lead	ug/L	500	488	98	80-120	
Selenium	ug/L	500	496	99	80-120	
Silver	ug/L	250	250	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1046403 1046404

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92171475014 Result	Spike Conc.	Spike Conc.	MS Result						
Arsenic	ug/L	ND	500	500	493	492	98	98	75-125	0	25
Barium	ug/L	617	500	500	1120	1110	100	99	75-125	0	25
Cadmium	ug/L	ND	500	500	496	493	99	99	75-125	1	25
Chromium	ug/L	ND	500	500	490	486	98	97	75-125	1	25
Lead	ug/L	ND	500	500	464	460	92	91	75-125	1	25
Selenium	ug/L	ND	500	500	488	489	97	97	75-125	0	25
Silver	ug/L	ND	250	250	248	246	99	98	75-125	1	25

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### QUALITY CONTROL DATA

Project: Caswell Co. Landfill

Pace Project No.: 92171975

QC Batch: MSV/24244 Analysis Method: EPA 8260  
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill  
 Associated Lab Samples: 92171975001, 92171975002, 92171975003, 92171975004, 92171975005, 92171975006, 92171975007, 92171975008, 92171975009, 92171975010

METHOD BLANK: 1046907 Matrix: Water

Associated Lab Samples: 92171975001, 92171975002, 92171975003, 92171975004, 92171975005, 92171975006, 92171975007, 92171975008, 92171975009, 92171975010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	09/17/13 02:10	
1,1,1-Trichloroethane	ug/L	ND	1.0	09/17/13 02:10	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/17/13 02:10	
1,1,2-Trichloroethane	ug/L	ND	1.0	09/17/13 02:10	
1,1-Dichloroethane	ug/L	ND	1.0	09/17/13 02:10	
1,1-Dichloroethene	ug/L	ND	1.0	09/17/13 02:10	
1,2,3-Trichloropropane	ug/L	ND	1.0	09/17/13 02:10	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	09/17/13 02:10	
1,2-Dichlorobenzene	ug/L	ND	1.0	09/17/13 02:10	
1,2-Dichloroethane	ug/L	ND	1.0	09/17/13 02:10	
1,2-Dichloropropane	ug/L	ND	1.0	09/17/13 02:10	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/17/13 02:10	
2-Butanone (MEK)	ug/L	ND	5.0	09/17/13 02:10	
2-Hexanone	ug/L	ND	5.0	09/17/13 02:10	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	09/17/13 02:10	
Acetone	ug/L	ND	25.0	09/17/13 02:10	
Acrylonitrile	ug/L	ND	10.0	09/17/13 02:10	
Benzene	ug/L	ND	1.0	09/17/13 02:10	
Bromochloromethane	ug/L	ND	1.0	09/17/13 02:10	
Bromodichloromethane	ug/L	ND	1.0	09/17/13 02:10	
Bromoform	ug/L	ND	1.0	09/17/13 02:10	
Bromomethane	ug/L	ND	2.0	09/17/13 02:10	
Carbon disulfide	ug/L	ND	2.0	09/17/13 02:10	
Carbon tetrachloride	ug/L	ND	1.0	09/17/13 02:10	
Chlorobenzene	ug/L	ND	1.0	09/17/13 02:10	
Chloroethane	ug/L	ND	1.0	09/17/13 02:10	
Chloroform	ug/L	ND	1.0	09/17/13 02:10	
Chloromethane	ug/L	ND	1.0	09/17/13 02:10	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/17/13 02:10	
cis-1,3-Dichloropropene	ug/L	ND	1.0	09/17/13 02:10	
Dibromochloromethane	ug/L	ND	1.0	09/17/13 02:10	
Dibromomethane	ug/L	ND	1.0	09/17/13 02:10	
Ethylbenzene	ug/L	ND	1.0	09/17/13 02:10	
Iodomethane	ug/L	ND	5.0	09/17/13 02:10	
m&p-Xylene	ug/L	ND	2.0	09/17/13 02:10	
Methylene Chloride	ug/L	ND	1.0	09/17/13 02:10	
o-Xylene	ug/L	ND	1.0	09/17/13 02:10	
Styrene	ug/L	ND	1.0	09/17/13 02:10	
Tetrachloroethene	ug/L	ND	1.0	09/17/13 02:10	
Toluene	ug/L	ND	1.0	09/17/13 02:10	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/17/13 02:10	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Caswell Co. Landfill

Pace Project No.: 92171975

METHOD BLANK: 1046907

Matrix: Water

Associated Lab Samples: 92171975001, 92171975002, 92171975003, 92171975004, 92171975005, 92171975006, 92171975007, 92171975008, 92171975009, 92171975010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	09/17/13 02:10	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	09/17/13 02:10	
Trichloroethene	ug/L	ND	1.0	09/17/13 02:10	
Trichlorofluoromethane	ug/L	ND	1.0	09/17/13 02:10	
Vinyl acetate	ug/L	ND	2.0	09/17/13 02:10	
Vinyl chloride	ug/L	ND	1.0	09/17/13 02:10	
Xylene (Total)	ug/L	ND	2.0	09/17/13 02:10	
1,2-Dichloroethane-d4 (S)	%	102	70-130	09/17/13 02:10	
4-Bromofluorobenzene (S)	%	100	70-130	09/17/13 02:10	
Toluene-d8 (S)	%	97	70-130	09/17/13 02:10	

LABORATORY CONTROL SAMPLE: 1046908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.1	96	70-130	
1,1,1-Trichloroethane	ug/L	50	44.6	89	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.8	100	70-130	
1,1,2-Trichloroethane	ug/L	50	48.6	97	70-130	
1,1-Dichloroethane	ug/L	50	47.5	95	70-130	
1,1-Dichloroethene	ug/L	50	47.0	94	70-132	
1,2,3-Trichloropropane	ug/L	50	53.5	107	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	51.7	103	70-130	
1,2-Dichlorobenzene	ug/L	50	52.3	105	70-130	
1,2-Dichloroethane	ug/L	50	44.6	89	70-130	
1,2-Dichloropropane	ug/L	50	52.0	104	70-130	
1,4-Dichlorobenzene	ug/L	50	51.1	102	70-130	
2-Butanone (MEK)	ug/L	100	111	111	70-145	
2-Hexanone	ug/L	100	110	110	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	70-140	
Acetone	ug/L	100	93.7	94	50-175	
Acrylonitrile	ug/L	250	249	100	70-143	
Benzene	ug/L	50	48.7	97	70-130	
Bromochloromethane	ug/L	50	50.5	101	70-130	
Bromodichloromethane	ug/L	50	47.3	95	70-130	
Bromoform	ug/L	50	51.5	103	70-130	
Bromomethane	ug/L	50	38.1	76	54-130	
Carbon disulfide	ug/L	50	46.5	93	70-131	
Carbon tetrachloride	ug/L	50	42.9	86	70-132	
Chlorobenzene	ug/L	50	48.6	97	70-130	
Chloroethane	ug/L	50	41.9	84	64-134	
Chloroform	ug/L	50	46.9	94	70-130	
Chloromethane	ug/L	50	40.3	81	64-130	
cis-1,2-Dichloroethene	ug/L	50	48.6	97	70-131	
cis-1,3-Dichloropropene	ug/L	50	51.1	102	70-130	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Caswell Co. Landfill

Pace Project No.: 92171975

LABORATORY CONTROL SAMPLE: 1046908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	50	49.5	99	70-130	
Dibromomethane	ug/L	50	45.9	92	70-131	
Ethylbenzene	ug/L	50	48.0	96	70-130	
Iodomethane	ug/L	100	77.4	77	49-180	
m&p-Xylene	ug/L	100	98.9	99	70-130	
Methylene Chloride	ug/L	50	51.2	102	63-130	
o-Xylene	ug/L	50	51.7	103	70-130	
Styrene	ug/L	50	50.4	101	70-130	
Tetrachloroethene	ug/L	50	49.7	99	70-130	
Toluene	ug/L	50	47.0	94	70-130	
trans-1,2-Dichloroethene	ug/L	50	47.9	96	70-130	
trans-1,3-Dichloropropene	ug/L	50	52.9	106	70-132	
trans-1,4-Dichloro-2-butene	ug/L	50	53.1	106	70-141	
Trichloroethene	ug/L	50	45.8	92	70-130	
Trichlorofluoromethane	ug/L	50	38.6	77	62-133	
Vinyl acetate	ug/L	100	100	100	66-157	
Vinyl chloride	ug/L	50	40.6	81	69-130	
Xylene (Total)	ug/L	150	151	100	70-130	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			102	70-130	

### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Caswell Co. Landfill

Pace Project No.: 92171975

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

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.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Caswell Co. Landfill  
Pace Project No.: 92171975

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92171975001	1701-SW1	EPA 3010	MPRP/14178	EPA 6010	ICP/12905
92171975002	1701-SW2	EPA 3010	MPRP/14178	EPA 6010	ICP/12905
92171975003	1701-MW1	EPA 3010	MPRP/14178	EPA 6010	ICP/12905
92171975004	1701-MW2	EPA 3010	MPRP/14178	EPA 6010	ICP/12905
92171975005	1701-MW3	EPA 3010	MPRP/14178	EPA 6010	ICP/12905
92171975006	1701-MW4	EPA 3010	MPRP/14178	EPA 6010	ICP/12905
92171975007	1701-MW5	EPA 3010	MPRP/14178	EPA 6010	ICP/12905
92171975008	1701-MW6	EPA 3010	MPRP/14178	EPA 6010	ICP/12905
92171975009	1701-DUP	EPA 3010	MPRP/14178	EPA 6010	ICP/12905
92171975001	1701-SW1	EPA 7470	MERP/5586	EPA 7470	MERC/5410
92171975002	1701-SW2	EPA 7470	MERP/5586	EPA 7470	MERC/5410
92171975003	1701-MW1	EPA 7470	MERP/5586	EPA 7470	MERC/5410
92171975004	1701-MW2	EPA 7470	MERP/5586	EPA 7470	MERC/5410
92171975005	1701-MW3	EPA 7470	MERP/5586	EPA 7470	MERC/5410
92171975006	1701-MW4	EPA 7470	MERP/5586	EPA 7470	MERC/5410
92171975007	1701-MW5	EPA 7470	MERP/5586	EPA 7470	MERC/5410
92171975008	1701-MW6	EPA 7470	MERP/5587	EPA 7470	MERC/5412
92171975009	1701-DUP	EPA 7470	MERP/5587	EPA 7470	MERC/5412
92171975001	1701-SW1	EPA 8260	MSV/24244		
92171975002	1701-SW2	EPA 8260	MSV/24244		
92171975003	1701-MW1	EPA 8260	MSV/24244		
92171975004	1701-MW2	EPA 8260	MSV/24244		
92171975005	1701-MW3	EPA 8260	MSV/24244		
92171975006	1701-MW4	EPA 8260	MSV/24244		
92171975007	1701-MW5	EPA 8260	MSV/24244		
92171975008	1701-MW6	EPA 8260	MSV/24244		
92171975009	1701-DUP	EPA 8260	MSV/24244		
92171975010	1701-TB	EPA 8260	MSV/24244		

### REPORT OF LABORATORY ANALYSIS

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Client Name: Same

Where Received:  Huntersville  Asheville  Eden  Raleigh

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

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

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used: IR Gun T1102 **T1301** Type of Ice: **Wet** Blue None  Samples on ice, cooling process has begun

Temp Correction Factor T1102: No Correction T1301: No Correction

Corrected Cooler Temp.: 3.0 C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: mg/k

Comments:

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" 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 type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> No <input checked="" 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: <u>WT</u>		
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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	<u>2 HCC vials not on COC</u>
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

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

Comments/ Resolution: 1701 is permit # used on previous projects

SCURF Review: Amb Date: 9-12-13  
SRF Review: TMO Date: 9-13-13

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#: 92171975



# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1  
**1698826**

Page 29 of 29

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: <b>S&amp;ME Inc.</b>		Report To: <b>Ed Hennigues</b>		Attention:	
Address: <b>3718 Old Background Rd Greensboro, N.C.</b>		Copy To: <b>Lyndal Butler</b>		Company Name:	
Email To: <b>E.Hennigues@smenic.com</b>		Purchase Order No.: <b>1584-07-034</b>		Address:	
Phone: / Fax:		Project Name: <b>Caswell County Landfill</b>		Pace Quote Reference:	
Requested Due Date/TAT:		Project Number: <b>1584-07-034</b>		Pace Project Manager:	
				Pace Profile #: <b>1108-1</b>	
				<b>REGULATORY AGENCY</b>	
				<input type="checkbox"/> NPDES <input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____	
				Site Location	
				STATE: <b>NC</b>	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↓	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.							
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other						VOA	NC App. 1	RCRA metals				
					DATE	TIME	DATE	TIME																						
1	SW-1		WT	G			9/12/13	1900	4		X	X						X	X										001	
2	SW-2							1130	4		X	X						X	X										002	
3	MW-1							0930	4		X	X						X	X										003	
4	MW-2							1030	4		X	X						X	X										004	
5	MW-3							1445	4		X	X						X	X										005	
6	MW-4							1115	4		X	X						X	X										006	
7	MW-5							1500	4		X	X						X	X										007	
8	MW-6							1230	4		X	X						X	X										008	
9	Dup.							1250	4		X	X						X	X										009	
10																														010

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	<i>Michael Cook S&amp;ME</i>	9/12/13	1151	<i>Lyndal Butler</i>	9/12/13	1151	
	<i>Lyndal Butler</i>	9/12/13	1412	<i>Michael Cook</i>	9/12/13	1412	30 y n y

ORIGINAL

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: <i>Michael Cook</i>					
SIGNATURE of SAMPLER: <i>Michael Cook</i>	DATE Signed (MM/DD/YY): <i>9/12/13</i>				

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

**APPENDIX C**  
**NC DENR Environmental Monitoring Reporting**  
**Form and Electronic Data**

Paper Report

Electronic Data - Email CD (data loaded: Yes / No)

Doc/Event #:

**NC DENR**  
**Division of Waste Management - Solid Waste**

**Environmental Monitoring**  
**Reporting Form**

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

**Instructions:**

- Prepare one form for each individually monitored unit.
- Please type or print legibly.
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i)).
- In accordance with NC General Statutes Chapter 89C and 89E and NC Solid Waste Management Rules 15A NCAC 13B, be sure to affix a seal to the bottom of this page, when applicable.
- 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):

S&ME, Inc.

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

Name: Edmund Q.B. Henriques

Phone: (336) 288-7180

E-mail: ehenriques@smeinc.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Caswell County Landfill	Landfill Road, Yanceyville, North Carolina	17-01	500	October 1, 2013

**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.

Edmund Q. B. Henriques, L.G.

S&ME Inc. - Senior Geologist

336-288-7180

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

*Edmund Q.B. Henriques*  
Signature

10-1-13  
Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:

