

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	May 2, 2016

Environmental Status: (Check all that apply)

- Initial/Background Monitoring Detection Monitoring Assessment Monitoring Corrective Action

Type of data submitted: (Check all that apply)

- Groundwater monitoring data from monitoring wells 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

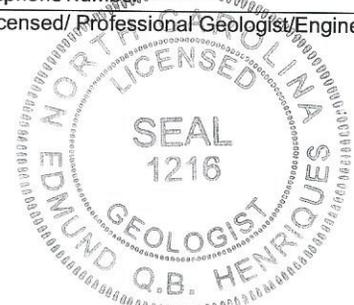
To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis 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

Signature: *Edmund Q.B. Henriques* Date: 6/1/16

Affix NC Licensed/ Professional Geologist/Engineer Seal here:



**Caswell County Landfill – Permit 17-01
Semi-Annual Water Quality Monitoring
May 2016 Sampling Event
Yanceyville, North Carolina
S&ME Project No. 1584-07-034A**



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

Prepared by:
S&ME, Inc.
8646 W Market St, Suite 105
Greensboro, NC 27409

June 1, 2016



June 1, 2016

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

Attention: Tim Smith

Reference: **Semi-Annual Monitoring Report – May 2016 Event**
Caswell County Landfill, Permit No. 17-01
Yanceyville, North Carolina
S&ME Project No. 1584-07-034A

Dear Mr. Smith:

S&ME Inc. (S&ME) has completed the first semi-annual monitoring event for 2016 at the closed Caswell County Landfill site. The monitoring activities were authorized by Caswell County, County Manager, Mr. Bryan Miller and were completed in general accordance with S&ME proposal 43-1600164 dated February 16, 2016. This report summarizes our understanding of the project, our field services, and the results of laboratory analyses performed on the samples collected. If you have any questions regarding this document, and our associated findings and recommendations; please contact Edmund Henriques at your convenience.

Sincerely,

S&ME, Inc.



Edmund Q.B. Henriques
Project Manager / Senior Geologist
NC Licensed Geologist No. 1216

Amanda Bloom
Staff Professional



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1.0 Executive Summary

Six monitoring wells at the Caswell County Landfill were sampled on May 2, 2016. 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 in general accordance with 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 report that none of the 8-RCRA metals were detected at concentrations greater than the corresponding 15A North Carolina Administrative Code (NCAC) 2L.0200 groundwater quality standards (2L Standard) during this event.

The volatile organic constituent benzene was detected in monitoring well MW-5 at a concentration equal to 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, MW-4, and MW-5 at concentrations greater than 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 targeted volatile organic constituents were detected at concentrations greater than 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 2016 at the closed Caswell County Landfill site. The monitoring activities were authorized by County Manager, Mr. Bryan Miller and were completed in general accordance with S&ME proposal 43-1600164 dated February 16, 2016. 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 (Permit No. 17-01) 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 up-gradient monitoring well (MW-1) and five down-gradient 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 May 2, 2016 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 2016.

3.0 Scope Of Work

S&ME has performed the first semi-annual groundwater sampling of the six (6) network groundwater monitoring wells for the 2016 groundwater monitoring year. The groundwater monitoring wells were purged, sampled, and the 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 the eight RCRA metals. This semi-annual groundwater monitoring report has been prepared to summarize the May 2, 2016, 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 Environmental Quality (NC DEQ)

4.0 Methods Employed

4.1 Monitoring Well Sampling

Groundwater monitoring well sampling took place on May 2, 2016. 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 sampling. These data are summarized in Table 1 and Table 2.

Monitor wells MW-1, MW-2 and MW-4 were manually purged using a new, sterile Teflon bailer prior to collecting the water samples. Each well was purged of up to 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. Table 2 provides a summary of the measured field parameters.

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 up to 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 I of this report.

Immediately upon collection, each groundwater sample was placed in laboratory supplied containers, place in a cooler with 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 May 2, 2016. Two stream samples (SW-1 and SW-2) were collected from an unnamed tributary of Bear Branch, which flows along the eastern portion of the Facility and flows toward the north 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 placed in a cooler with 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

The following sections provide a discussion of the groundwater and surface water sampling results for the May 2, 2016, semi-annual monitoring event. The laboratory analytical report is included in Appendix II. Appendix III contains a CD with the field and analytical laboratory data provided in the NCDEQ electronic data deliverable (EDD) format.

5.1 Groundwater Analytical Results

The results of the laboratory analyses for the groundwater monitoring well samples are summarized in Table 3, which also provides the corresponding 15A North Carolina Administrative Code (NCAC) 2L.0200 groundwater quality standards (2L Standard) for reference. Table 4 provides a summary of the constituents detected at concentrations greater than their respective 2L Standards. 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 May 2, 2016.

Metals (8-RCRA):

- ◆ Arsenic was detected in the sample collected from monitoring well MW-4 at a concentration less than the corresponding 2L Standard.
- ◆ Barium was detected in the samples collected from monitoring wells MW-1 through MW-6 at a concentrations less than the corresponding 2L Standard.
- ◆ Lead was detected in the sample collected from monitoring well MW-4 at a concentration less than the corresponding 2L Standard.

There were no other metals detected above the method detection limit from any other groundwater monitoring wells during the May 2, 2016, monitoring event. The analytical results for the detected metals (totals) 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 concentrations in wells MW-2, MW-3, and MW-4 were less than the corresponding 2L Standard. The concentration reported in well MW-5 was equal to 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, MW-4, and MW-5 are greater than the 2L Standard established at 6 µg/L.
- ◆ Chlorobenzene, 1,2-dichlorobenzene, 1,1-dichloroethane, cis 1,2-dichloroethene, 2-hexanone, toluene, and xylenes (total) 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. An estimated concentration of O-xylenes was detected in the Trip Blank sample that accompanied this sampling event. 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 limits in the stream samples SW-1 or SW-2 during the May 2, 2016, semi-annual monitoring event. 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 surface water sample analyses are summarized on Table 5 and Table 6.

5.3 Groundwater Flow Direction

The static water levels in the monitoring wells were measured on May 2, 2016. On this date, the depths to the water table ranged from 6.67 feet below top of well casing at MW-6 to 21.33 feet below the top of well casing at MW-4. 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 May 2, 2016, 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 Bear Branch.

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-1 and the sample was analyzed for the Appendix I Volatile Organic Compounds and the 8-RCRA metals. Barium was the only target constituent detected in the duplicate sample. The detected barium concentrations in the sample identified as MW-1 and the duplicate sample show very good correlation. A Trip Blank accompanied the sample kit during shipment, sample collection, and shipment of the collected samples back to the laboratory. The Trip Blank sample was analyzed for Appendix I Volatile Organic Compounds. No target compounds were detected except for xylenes (total) at an estimated concentration of 0.26 ug/L. Similar estimated concentrations of xylenes (total) were detected in samples MW-2, MW-4 and MW-5 during the May 2, 2016 sampling event. The results of the duplicate, trip blank, and laboratory QC sample analyses are included in Appendix II.

5.5 Preliminary Analysis of Cause and Significance of 2L Exceedances

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.

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 down-gradient monitoring well on the landfill side of the unnamed tributary of Bear Branch. The observed suspect residential homes are topographically up-gradient and on the other side of the unnamed tributary of Bear Branch 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 or the availability of public water in the vicinity of the landfill.

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; 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; 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.

Appendices

Tables

TABLE 2
SUMMARY OF GROUNDWATER SAMPLING FIELD PARAMETERS
PERMIT # 17-01
CASWELL COUNTY LANDFILL
YANCEYVILLE, NORTH CAROLINA
S&ME PROJECT NO. 1584-07-034A

DATE	WELL ID	WELL DEPTH (feet)	DEPTH TO WATER (feet)	WATER ELEVATION (feet)	ODOR	PURGE METHOD	PUMP RATE (mL/min)	WELL VOLUME (gallons)	EVAC VOLUME (gallons)	PURGED DRY? (yes/no)	TEMP (deg C)	pH (SU)	SPECIFIC CONDUCTANCE (µs/cm)
5/2/2016	MW-1	24.5	16.75	557.25	None	bailer	NA	1.26	4	No	16.50	6.33	801.0
5/2/2016	MW-2	22.3	17.62	510.38	None	bailer	NA	0.76	0.5	Yes	14.90	6.34	1400.0
5/2/2016	MW-3	17.8	9.20	503.80	None	pump	100	1.40	1	No	15.00	6.00	686.0
5/2/2016	MW-4	36	21.33	506.07	None	bailer	NA	2.39	5	Yes	15.30	6.35	1428.0
5/2/2016	MW-5	24.7	8.18	491.92	None	pump	200	2.69	2.5	No	17.50	6.60	1067.0
5/2/2016	MW-6	16.2	6.67	484.43	None	pump	200	1.55	1.5	No	14.70	6.30	80.0

Notes:

1. TEMP = groundwater temperature, measured in degrees Celsius
2. Pump Rate, measured in milliliters/minute
3. Specific Conductance, measured in µs/cm indicates micro Siemens per centimeter.
4. SU indicates Standard Units.
5. EVAC = evacuated volume of groundwater
6. NA = not applicable

TABLE 3
SUMMARY OF GROUNDWATER ANALYSES RESULTS - DETECTIONS
PERMIT # 17-01
CASWELL COUNTY LANDFILL
YANCEYVILLE, NORTH CAROLINA
S&ME PROJECT NO. 1584-07-034A

Appendix I Volatile Organic Compounds													
Solid Waste Section ID #	Well ID Sample ID Date Collected Detected Analytes	Sample Locations							NC SWSL (ug/L)	Report Limit (ug/L)	NCAC 2L Standards (ug/L)	NCDENR IMAC (ug/L)	Federal MCLs (ug/L)
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	Duplicate					
		1701-MW1 05/02/16 (ug/L)	1701-MW2 05/02/16 (ug/L)	1701-MW3 05/02/16 (ug/L)	1701-MW4 05/02/16 (ug/L)	1701-MW5 05/02/16 (ug/L)	1701-MW6 05/02/16 (ug/L)	701-Duplicate 05/02/16 (ug/L)					
16	Benzene	<1.0	0.66 J	0.40 J	0.97 J	1.0	<1.0	<1.0	1	1.0	1	--	5
39	Chlorobenzene	<1.0	17.7	4.2	26.5	6.6	<1.0	<1.0	3	1.0	50	--	100
69	1,2-Dichlorobenzene	<1.0	1.5	0.38 J	2.3	2.0	<1.0	<1.0	5	1.0	20	--	600
71	1,4-Dichlorobenzene	<1.0	8.9	2.4	11.4	11.8	<1.0	<1.0	1	1.0	6	--	75
75	1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0	0.38 J	<1.0	<1.0	5	1.0	6	--	ns
78	cis-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	0.55 J	<1.0	<1.0	5	1.0	70	--	700
124	2-Hexanone	<5.0	<5.0	<5.0	0.99 J	<5.0	<5.0	<5.0	50	5.0	ns	40	ns
196	Toluene	<1.0	0.49 J	<1.0	<1.0	<1.0	<1.0	<1.0	1	1.0	600	--	1
346	Xylenes	<3.0	0.27 J	<3.0	0.31 J	0.26 J	<3.0	<3.0	5	3.0	500	--	10
8-RCRA Metals													
Solid Waste Section ID #	Well ID Sample ID Date Collected Detected Analytes	Sample Locations							NC SWSL (ug/L)	Report Limit (ug/L)	NCAC 2L Standards (ug/L)	NCDENR IMAC (ug/L)	Federal MCLs (ug/L)
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	Duplicate					
		1701-MW1 05/02/16 (ug/L)	1701-MW2 05/02/16 (ug/L)	1701-MW3 05/02/16 (ug/L)	1701-MW4 05/02/16 (ug/L)	1701-MW5 05/02/16 (ug/L)	1701-MW6 05/02/16 (ug/L)	701-Duplicate 05/02/16 (ug/L)					
14	Arsenic	<10.0	<10.0	<10.0	2.8 J	<10.0	<10.0	<10.0	10	10	10	--	ns
15	Barium	21.8 J	69.2J	64.3 J	50.1 J	46.3 J	8.9 J	21.9 J	100	10	700	--	2,000
131	Lead	<5.0	<5.0	<5.0	2.6 J	<5.0	<5.0	<5.0	10	5	15	--	ns

ug/L = concentrations reported in micrograms per liter (ug/L)
NC SWSL = North Carolina Solid Waste Section Limit
NCAC 2L Standards = 15A North Carolina Administrative Code 2L .0200, GW Quality Standards for Class GA groundwater.
concentrations in bold exceed the corresponding 2L Standard
NCDENR IMAC = Interim Maximum Allowed Concentration, NCDENR
Federal MCL = Maximum Concentration Levels, USEPA
ns = no MCL listed, USEPA
na = not analyzed

**TABLE 4
SUMMARY OF GROUNDWATER STANDARD EXCEEDANCES
PERMIT # 17-01
CASWELL COUNTY LANDFILL
YANCEYVILLE, NORTH CAROLINA
S&ME PROJECT NO. 1584-07-034A**

Solid Waste Section IDs	Well ID	MW-2	MW-4	MW-5	NC SWSL	NCAC 2L Standards	NCDENR IMAC	Federal MCLs
	Sample ID Date Collected Detected Analytes	1701-MW2 05/02/16 (ug/L)	1701-MW4 05/02/16 (ug/L)	1701-MW5 05/02/16 (ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
16	Benzene			1.0	1	1	--	5
71	1,4-Dichlorobenzene	8.9	11.4	11.8	1	6	--	75

ug/L = concentrations reported in micrograms per liter (ug/L)

NC SWSL = North Carolina Solid Waste Section Limit

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

Concentration greater than the NCAC 2L Standards are shown in bold

NCDENR IMAC = Interim Maximum Allowed Concentration, NCDENR

Federal MCL = Maximum Concentration Levels, USEPA

ns = no MCL listed, USEPA

na = not analyzed

TABLE 5
SUMMARY OF SURFACE WATER ANALYSES RESULTS - DETECTIONS
PERMIT # 17-01
CASWELL COUNTY LANDFILL
YANCEYVILLE, NORTH CAROLINA
S&ME PROJECT NO. 1584-07-034A

Appendix I Volatile Organic Compounds						
Solid Waste Section ID #	Sample Location Sample ID Date Collected	Sample Locations		NC SWSL (ug/L)	Report Limit (ug/L)	NCAC 2B Standards (ug/L)
		SW-1 1701-SW1 05/02/16 (ug/L)	SW-2 1701-SW2 05/02/16 (ug/L)			
	Detected Analytes					
	all target analytes	< report limit	< report limit	analyte specific	analyte specific	analyte specific
8-RCRA Metals						
Solid Waste Section ID #	Sample Location Sample ID Date Collected	Sample Locations		NC SWSL (ug/L)	Report Limit (ug/L)	NCAC 2B Standards* (ug/L)
		SW-1 1701-SW1 05/02/16 (ug/L)	SW-2 1701-SW2 05/02/16 (ug/L)			
15	Barium	30.4	32.7	100	5.0	1000

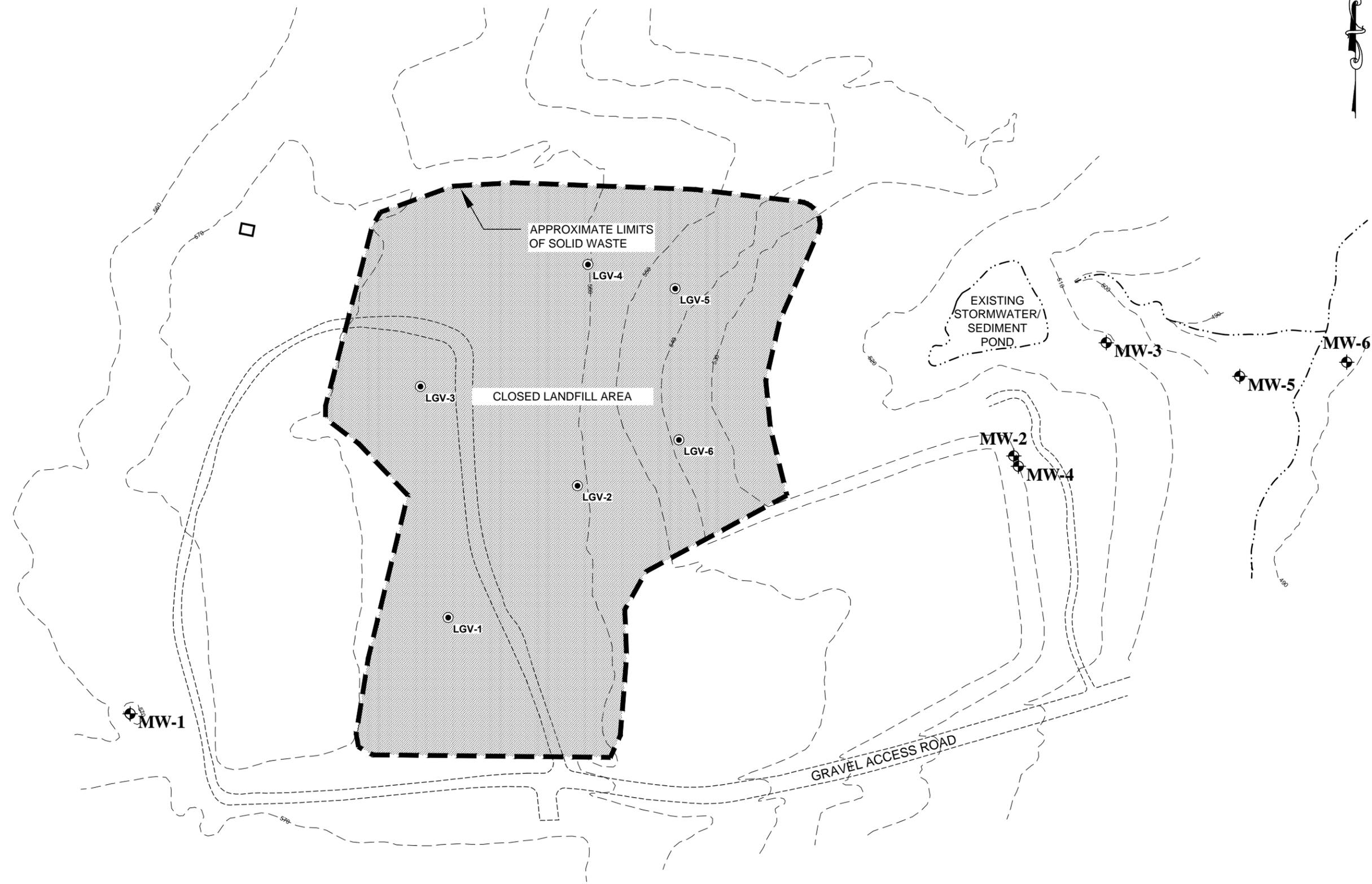
ug/L = concentrations reported in micrograms per liter (ug/L)
NC SWSL = North Carolina Solid Waste Section Limit

TABLE 6
SUMMARY OF 2B SURFACE WATER STANDARD EXCEEDANCES
PERMIT # 17-01
CASWELL COUNTY LANDFILL
YANCEYVILLE, NORTH CAROLINA
S&ME PROJECT NO. 1584-07-034A

Appendix I VOCs and 8-RCRA Metals					
Solid Waste Section IDs	Sample Location	SW-1	SW-2	NC SWSL	NCAC 2B Standards*
	Sample ID	1701-SW1	1701-SW2		
	Date Collected	05/02/16	05/02/16		
	Detected Analytes	(ug/L)	(ug/L)	(ug/L)	(ug/L)
No exceedances					

ug/L = concentrations reported in micrograms per liter (ug/L)
NC SWSL = North Carolina Solid Waste Section Limit

Figures



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

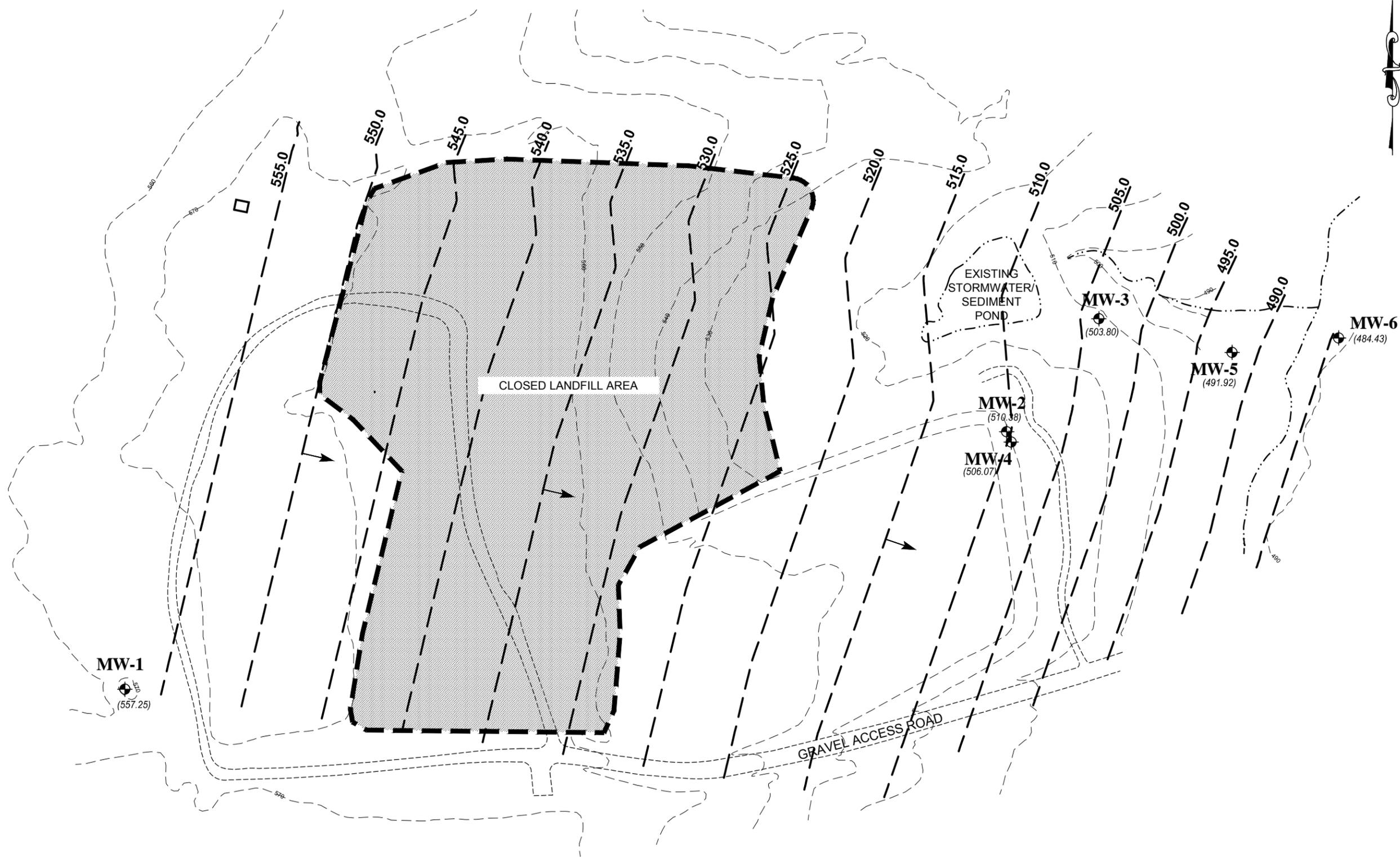


SITE PLAN
 CASWELL COUNTY LANDFILL
 YANCEYVILLE, NORTH CAROLINA

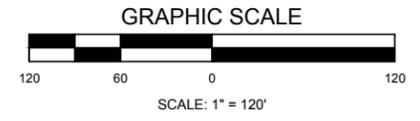
SCALE: AS SHOWN	DRAWN BY: RDM	CHECKED BY: EQBH
JOB NO. 1584-07-034A	DATE: JULY 2015	FIGURE NO. 1

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





- KEY**
- MONITORING WELL LOCATION
 - GROUNDWATER CONTOUR
 - 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. 1584-07-034A	DATE: MAY 2016	FIGURE NO. 2

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



Appendix I – Groundwater Sampling Field Data Sheets

Appendix II – Laboratory Analytical Reports

May 09, 2016

Tim Smith
Caswell County Landfill
162 Landfill Road
Yanceyville, NC 27379

RE: Project: CASWELL CO LF 1584-07-034A
Pace Project No.: 92296128

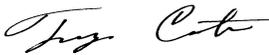
Dear Tim Smith:

Enclosed are the analytical results for sample(s) received by the laboratory on May 03, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

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

Sincerely,



Trey Carter
treycarter@pacelabs.com
Project Manager

Enclosures

cc: Mr. Ed Henriques, S&ME, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CASWELL CO LF 1584-07-034A
Pace Project No.: 92296128

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
Virginia/VELAP Certification #: 460221

Asheville Certification IDs

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

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92296128001	MW-1	EPA 6010	CDF	7	PASI-A
		EPA 7470	ANB	1	PASI-A
		EPA 8260	GAW	51	PASI-C
92296128002	MW-2	EPA 6010	CDF	7	PASI-A
		EPA 7470	ANB	1	PASI-A
		EPA 8260	GAW	51	PASI-C
92296128003	MW-3	EPA 6010	CDF	7	PASI-A
		EPA 7470	ANB	1	PASI-A
		EPA 8260	GAW	51	PASI-C
92296128004	MW-4	EPA 6010	CDF	7	PASI-A
		EPA 7470	ANB	1	PASI-A
		EPA 8260	GAW	51	PASI-C
92296128005	MW-5	EPA 6010	CDF	7	PASI-A
		EPA 7470	ANB	1	PASI-A
		EPA 8260	GAW	51	PASI-C
92296128006	MW-6	EPA 6010	CDF	7	PASI-A
		EPA 7470	ANB	1	PASI-A
		EPA 8260	GAW	51	PASI-C
92296128007	SW-1	EPA 6010	CDF	7	PASI-A
		EPA 7470	ANB	1	PASI-A
		EPA 8260	GAW	51	PASI-C
92296128008	SW-2	EPA 6010	CDF	7	PASI-A
		EPA 7470	ANB	1	PASI-A
		EPA 8260	GAW	51	PASI-C
92296128009	DUPLICATE	EPA 6010	CDF	7	PASI-A
		EPA 7470	ANB	1	PASI-A
		EPA 8260	GAW	51	PASI-C
92296128010	TRIP BLANK	EPA 8260	GAW	51	PASI-C

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: MW-1	Lab ID: 92296128001	Collected: 05/02/16 15:30	Received: 05/03/16 11:56	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010A						
Arsenic	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:15	7440-38-2	
Barium	21.8J	ug/L	100	1	05/04/16 14:30	05/06/16 06:15	7440-39-3	
Cadmium	ND	ug/L	1.0	1	05/04/16 14:30	05/06/16 06:15	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:15	7440-47-3	
Lead	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:15	7439-92-1	
Selenium	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:15	7782-49-2	
Silver	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:15	7440-22-4	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	1	05/04/16 16:00	05/05/16 10:03	7439-97-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		05/06/16 17:39	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 17:39	107-13-1	
Benzene	ND	ug/L	1.0	1		05/06/16 17:39	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 17:39	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 17:39	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/06/16 17:39	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/06/16 17:39	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 17:39	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 17:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 17:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/06/16 17:39	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 17:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 17:39	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 17:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 17:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 17:39	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 17:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 17:39	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 17:39	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 17:39	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/06/16 17:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 17:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 17:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 17:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 17:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 17:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 17:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 17:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 17:39	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/06/16 17:39	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 17:39	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 17:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 17:39	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 17:39	100-42-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Project No.: 92296128

Sample: MW-1		Lab ID: 92296128001	Collected: 05/02/16 15:30	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 17:39	630-20-6	
1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 17:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 17:39	127-18-4	
Toluene	ND	ug/L	1.0	1		05/06/16 17:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 17:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 17:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/06/16 17:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 17:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 17:39	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 17:39	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 17:39	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 17:39	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 17:39	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/06/16 17:39	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	1		05/06/16 17:39	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		05/06/16 17:39	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		05/06/16 17:39	2037-26-5	

Sample: MW-2		Lab ID: 92296128002	Collected: 05/02/16 10:00	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010A						
Arsenic	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:24	7440-38-2	
Barium	69.2J	ug/L	100	1	05/04/16 14:30	05/06/16 06:24	7440-39-3	
Cadmium	ND	ug/L	1.0	1	05/04/16 14:30	05/06/16 06:24	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:24	7440-47-3	
Lead	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:24	7439-92-1	
Selenium	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:24	7782-49-2	
Silver	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:24	7440-22-4	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	1	05/04/16 16:00	05/05/16 10:05	7439-97-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		05/06/16 17:56	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 17:56	107-13-1	
Benzene	0.66J	ug/L	1.0	1		05/06/16 17:56	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 17:56	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 17:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/06/16 17:56	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/06/16 17:56	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 17:56	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 17:56	75-15-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: MW-2	Lab ID: 92296128002	Collected: 05/02/16 10:00	Received: 05/03/16 11:56	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 17:56	56-23-5	
Chlorobenzene	17.7	ug/L	1.0	1		05/06/16 17:56	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 17:56	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 17:56	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 17:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 17:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 17:56	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 17:56	74-95-3	
1,2-Dichlorobenzene	1.5	ug/L	1.0	1		05/06/16 17:56	95-50-1	
1,4-Dichlorobenzene	8.9	ug/L	1.0	1		05/06/16 17:56	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 17:56	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/06/16 17:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 17:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 17:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 17:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 17:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 17:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 17:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 17:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 17:56	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/06/16 17:56	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 17:56	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 17:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 17:56	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 17:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 17:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 17:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 17:56	127-18-4	
Toluene	0.49J	ug/L	1.0	1		05/06/16 17:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 17:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 17:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/06/16 17:56	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 17:56	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 17:56	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 17:56	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 17:56	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 17:56	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 17:56	179601-23-1	
o-Xylene	0.27J	ug/L	1.0	1		05/06/16 17:56	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	108	%	70-130	1		05/06/16 17:56	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		05/06/16 17:56	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		05/06/16 17:56	2037-26-5	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: MW-3	Lab ID: 92296128003	Collected: 05/02/16 12:00	Received: 05/03/16 11:56	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010A						
Arsenic	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:27	7440-38-2	
Barium	64.3J	ug/L	100	1	05/04/16 14:30	05/06/16 06:27	7440-39-3	
Cadmium	ND	ug/L	1.0	1	05/04/16 14:30	05/06/16 06:27	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:27	7440-47-3	
Lead	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:27	7439-92-1	
Selenium	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:27	7782-49-2	
Silver	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:27	7440-22-4	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	1	05/04/16 16:00	05/05/16 10:08	7439-97-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		05/06/16 18:13	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 18:13	107-13-1	
Benzene	0.40J	ug/L	1.0	1		05/06/16 18:13	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 18:13	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 18:13	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/06/16 18:13	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/06/16 18:13	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 18:13	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 18:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 18:13	56-23-5	
Chlorobenzene	4.2	ug/L	1.0	1		05/06/16 18:13	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 18:13	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 18:13	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 18:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 18:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 18:13	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 18:13	74-95-3	
1,2-Dichlorobenzene	0.38J	ug/L	1.0	1		05/06/16 18:13	95-50-1	
1,4-Dichlorobenzene	2.4	ug/L	1.0	1		05/06/16 18:13	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 18:13	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/06/16 18:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 18:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 18:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 18:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 18:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 18:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 18:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 18:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 18:13	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/06/16 18:13	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 18:13	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 18:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 18:13	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 18:13	100-42-5	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Project No.: 92296128

Sample: MW-3		Lab ID: 92296128003	Collected: 05/02/16 12:00	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 18:13	630-20-6	
1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 18:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 18:13	127-18-4	
Toluene	ND	ug/L	1.0	1		05/06/16 18:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 18:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 18:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/06/16 18:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 18:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 18:13	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 18:13	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 18:13	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 18:13	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 18:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/06/16 18:13	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	104	%	70-130	1		05/06/16 18:13	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130	1		05/06/16 18:13	17060-07-0	
Toluene-d8 (S)	95	%	70-130	1		05/06/16 18:13	2037-26-5	

Sample: MW-4		Lab ID: 92296128004	Collected: 05/02/16 11:00	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010A						
Arsenic	2.8J	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:30	7440-38-2	
Barium	50.1J	ug/L	100	1	05/04/16 14:30	05/06/16 06:30	7440-39-3	
Cadmium	ND	ug/L	1.0	1	05/04/16 14:30	05/06/16 06:30	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:30	7440-47-3	
Lead	2.6J	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:30	7439-92-1	
Selenium	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:30	7782-49-2	
Silver	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:30	7440-22-4	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	1	05/04/16 16:00	05/05/16 10:10	7439-97-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		05/06/16 18:30	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 18:30	107-13-1	
Benzene	0.97J	ug/L	1.0	1		05/06/16 18:30	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 18:30	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 18:30	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/06/16 18:30	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/06/16 18:30	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 18:30	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 18:30	75-15-0	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: MW-4	Lab ID: 92296128004	Collected: 05/02/16 11:00	Received: 05/03/16 11:56	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 18:30	56-23-5	
Chlorobenzene	26.5	ug/L	1.0	1		05/06/16 18:30	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 18:30	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 18:30	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 18:30	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 18:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 18:30	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 18:30	74-95-3	
1,2-Dichlorobenzene	2.3	ug/L	1.0	1		05/06/16 18:30	95-50-1	
1,4-Dichlorobenzene	11.4	ug/L	1.0	1		05/06/16 18:30	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 18:30	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/06/16 18:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 18:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 18:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 18:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 18:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 18:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 18:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 18:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 18:30	100-41-4	
2-Hexanone	0.99J	ug/L	5.0	1		05/06/16 18:30	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 18:30	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 18:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 18:30	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 18:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 18:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 18:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 18:30	127-18-4	
Toluene	ND	ug/L	1.0	1		05/06/16 18:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 18:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 18:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/06/16 18:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 18:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 18:30	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 18:30	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 18:30	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 18:30	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 18:30	179601-23-1	
o-Xylene	0.31J	ug/L	1.0	1		05/06/16 18:30	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		05/06/16 18:30	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130	1		05/06/16 18:30	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		05/06/16 18:30	2037-26-5	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: MW-5	Lab ID: 92296128005	Collected: 05/02/16 13:00	Received: 05/03/16 11:56	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010A						
Arsenic	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:33	7440-38-2	
Barium	46.3J	ug/L	100	1	05/04/16 14:30	05/06/16 06:33	7440-39-3	
Cadmium	ND	ug/L	1.0	1	05/04/16 14:30	05/06/16 06:33	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:33	7440-47-3	
Lead	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:33	7439-92-1	
Selenium	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:33	7782-49-2	
Silver	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:33	7440-22-4	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	1	05/04/16 16:00	05/05/16 10:12	7439-97-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		05/06/16 18:48	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 18:48	107-13-1	
Benzene	1.0	ug/L	1.0	1		05/06/16 18:48	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 18:48	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 18:48	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/06/16 18:48	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/06/16 18:48	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 18:48	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 18:48	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 18:48	56-23-5	
Chlorobenzene	6.6	ug/L	1.0	1		05/06/16 18:48	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 18:48	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 18:48	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 18:48	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 18:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 18:48	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 18:48	74-95-3	
1,2-Dichlorobenzene	2.0	ug/L	1.0	1		05/06/16 18:48	95-50-1	
1,4-Dichlorobenzene	11.8	ug/L	1.0	1		05/06/16 18:48	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 18:48	110-57-6	
1,1-Dichloroethane	0.38J	ug/L	1.0	1		05/06/16 18:48	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 18:48	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 18:48	75-35-4	
cis-1,2-Dichloroethene	0.55J	ug/L	1.0	1		05/06/16 18:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 18:48	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 18:48	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 18:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 18:48	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 18:48	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/06/16 18:48	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 18:48	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 18:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 18:48	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 18:48	100-42-5	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: MW-5		Lab ID: 92296128005	Collected: 05/02/16 13:00	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 18:48	630-20-6	
1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 18:48	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 18:48	127-18-4	
Toluene	ND	ug/L	1.0	1		05/06/16 18:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 18:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 18:48	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/06/16 18:48	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 18:48	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 18:48	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 18:48	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 18:48	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 18:48	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 18:48	179601-23-1	
o-Xylene	0.26J	ug/L	1.0	1		05/06/16 18:48	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		05/06/16 18:48	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130	1		05/06/16 18:48	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		05/06/16 18:48	2037-26-5	

Sample: MW-6		Lab ID: 92296128006	Collected: 05/02/16 14:00	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010A						
Arsenic	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:37	7440-38-2	
Barium	8.9J	ug/L	100	1	05/04/16 14:30	05/06/16 06:37	7440-39-3	
Cadmium	ND	ug/L	1.0	1	05/04/16 14:30	05/06/16 06:37	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:37	7440-47-3	
Lead	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:37	7439-92-1	
Selenium	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:37	7782-49-2	
Silver	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:37	7440-22-4	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	1	05/04/16 16:00	05/05/16 10:15	7439-97-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		05/06/16 19:05	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 19:05	107-13-1	
Benzene	ND	ug/L	1.0	1		05/06/16 19:05	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 19:05	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 19:05	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/06/16 19:05	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/06/16 19:05	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 19:05	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 19:05	75-15-0	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: MW-6	Lab ID: 92296128006	Collected: 05/02/16 14:00	Received: 05/03/16 11:56	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 19:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/06/16 19:05	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 19:05	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 19:05	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 19:05	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 19:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 19:05	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 19:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 19:05	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 19:05	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 19:05	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/06/16 19:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 19:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 19:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 19:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 19:05	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 19:05	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/06/16 19:05	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 19:05	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 19:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 19:05	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 19:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 19:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 19:05	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 19:05	127-18-4	
Toluene	ND	ug/L	1.0	1		05/06/16 19:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 19:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 19:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/06/16 19:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 19:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 19:05	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 19:05	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 19:05	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 19:05	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 19:05	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/06/16 19:05	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		05/06/16 19:05	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130	1		05/06/16 19:05	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		05/06/16 19:05	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: SW-1		Lab ID: 92296128007	Collected: 05/02/16 14:45	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010A						
Arsenic	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:40	7440-38-2	
Barium	30.4	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:40	7440-39-3	
Cadmium	ND	ug/L	1.0	1	05/04/16 14:30	05/06/16 06:40	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:40	7440-47-3	
Lead	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:40	7439-92-1	
Selenium	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:40	7782-49-2	
Silver	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:40	7440-22-4	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	1	05/04/16 16:00	05/05/16 10:17	7439-97-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		05/06/16 19:22	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 19:22	107-13-1	
Benzene	ND	ug/L	1.0	1		05/06/16 19:22	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 19:22	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 19:22	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/06/16 19:22	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/06/16 19:22	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 19:22	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 19:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 19:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/06/16 19:22	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 19:22	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 19:22	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 19:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 19:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 19:22	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 19:22	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 19:22	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 19:22	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 19:22	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/06/16 19:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 19:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 19:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 19:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 19:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 19:22	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/06/16 19:22	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 19:22	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 19:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 19:22	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 19:22	100-42-5	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Project No.: 92296128

Sample: SW-1		Lab ID: 92296128007		Collected: 05/02/16 14:45		Received: 05/03/16 11:56		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 19:22	630-20-6		
1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 19:22	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 19:22	127-18-4		
Toluene	ND	ug/L	1.0	1		05/06/16 19:22	108-88-3		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 19:22	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 19:22	79-00-5		
Trichloroethene	ND	ug/L	1.0	1		05/06/16 19:22	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 19:22	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 19:22	96-18-4		
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 19:22	108-05-4		
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 19:22	75-01-4		
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 19:22	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 19:22	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		05/06/16 19:22	95-47-6		
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130	1		05/06/16 19:22	460-00-4		
1,2-Dichloroethane-d4 (S)	90	%	70-130	1		05/06/16 19:22	17060-07-0		
Toluene-d8 (S)	97	%	70-130	1		05/06/16 19:22	2037-26-5		

Sample: SW-2		Lab ID: 92296128008		Collected: 05/02/16 14:15		Received: 05/03/16 11:56		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010A							
Arsenic	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:52	7440-38-2		
Barium	32.7	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:52	7440-39-3		
Cadmium	ND	ug/L	1.0	1	05/04/16 14:30	05/06/16 06:52	7440-43-9		
Chromium	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:52	7440-47-3		
Lead	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:52	7439-92-1		
Selenium	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:52	7782-49-2		
Silver	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:52	7440-22-4		
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	05/04/16 16:00	05/05/16 10:19	7439-97-6		
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		05/06/16 19:39	67-64-1		
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 19:39	107-13-1		
Benzene	ND	ug/L	1.0	1		05/06/16 19:39	71-43-2		
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 19:39	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 19:39	75-27-4		
Bromoform	ND	ug/L	1.0	1		05/06/16 19:39	75-25-2		
Bromomethane	ND	ug/L	2.0	1		05/06/16 19:39	74-83-9	L2	
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 19:39	78-93-3		
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 19:39	75-15-0		

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: SW-2	Lab ID: 92296128008	Collected: 05/02/16 14:15	Received: 05/03/16 11:56	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 19:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/06/16 19:39	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 19:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 19:39	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 19:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 19:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 19:39	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 19:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 19:39	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 19:39	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 19:39	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/06/16 19:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 19:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 19:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 19:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 19:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 19:39	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/06/16 19:39	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 19:39	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 19:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 19:39	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 19:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 19:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 19:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 19:39	127-18-4	
Toluene	ND	ug/L	1.0	1		05/06/16 19:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 19:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 19:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/06/16 19:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 19:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 19:39	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 19:39	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 19:39	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 19:39	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 19:39	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/06/16 19:39	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	1		05/06/16 19:39	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130	1		05/06/16 19:39	17060-07-0	
Toluene-d8 (S)	96	%	70-130	1		05/06/16 19:39	2037-26-5	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: DUPLICATE		Lab ID: 92296128009	Collected: 05/02/16 09:00	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010A						
Arsenic	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:55	7440-38-2	
Barium	21.9	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:55	7440-39-3	
Cadmium	ND	ug/L	1.0	1	05/04/16 14:30	05/06/16 06:55	7440-43-9	
Chromium	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:55	7440-47-3	
Lead	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:55	7439-92-1	
Selenium	ND	ug/L	10.0	1	05/04/16 14:30	05/06/16 06:55	7782-49-2	
Silver	ND	ug/L	5.0	1	05/04/16 14:30	05/06/16 06:55	7440-22-4	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury	ND	ug/L	0.20	1	05/04/16 16:00	05/05/16 10:22	7439-97-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		05/06/16 19:56	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 19:56	107-13-1	
Benzene	ND	ug/L	1.0	1		05/06/16 19:56	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 19:56	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 19:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/06/16 19:56	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/06/16 19:56	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 19:56	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 19:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 19:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/06/16 19:56	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 19:56	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 19:56	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 19:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 19:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 19:56	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 19:56	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 19:56	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 19:56	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 19:56	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/06/16 19:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 19:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 19:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 19:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 19:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 19:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 19:56	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/06/16 19:56	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 19:56	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 19:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 19:56	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 19:56	100-42-5	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: DUPLICATE		Lab ID: 92296128009	Collected: 05/02/16 09:00	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 19:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 19:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 19:56	127-18-4	
Toluene	ND	ug/L	1.0	1		05/06/16 19:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 19:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 19:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/06/16 19:56	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 19:56	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 19:56	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 19:56	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 19:56	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 19:56	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 19:56	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/06/16 19:56	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	103	%	70-130	1		05/06/16 19:56	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		05/06/16 19:56	17060-07-0	
Toluene-d8 (S)	95	%	70-130	1		05/06/16 19:56	2037-26-5	

Sample: TRIP BLANK		Lab ID: 92296128010	Collected: 05/02/16 00:00	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
Acetone	ND	ug/L	25.0	1		05/06/16 16:30	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		05/06/16 16:30	107-13-1	
Benzene	ND	ug/L	1.0	1		05/06/16 16:30	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		05/06/16 16:30	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/06/16 16:30	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/06/16 16:30	75-25-2	
Bromomethane	ND	ug/L	2.0	1		05/06/16 16:30	74-83-9	L2
2-Butanone (MEK)	ND	ug/L	5.0	1		05/06/16 16:30	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		05/06/16 16:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/06/16 16:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/06/16 16:30	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/06/16 16:30	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/06/16 16:30	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/06/16 16:30	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/06/16 16:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/06/16 16:30	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		05/06/16 16:30	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 16:30	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/06/16 16:30	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		05/06/16 16:30	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/06/16 16:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/06/16 16:30	107-06-2	

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ANALYTICAL RESULTS

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Sample: TRIP BLANK		Lab ID: 92296128010	Collected: 05/02/16 00:00	Received: 05/03/16 11:56	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260						
1,1-Dichloroethene	ND	ug/L	1.0	1		05/06/16 16:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 16:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/06/16 16:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/06/16 16:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 16:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/06/16 16:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		05/06/16 16:30	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		05/06/16 16:30	591-78-6	
Iodomethane	ND	ug/L	5.0	1		05/06/16 16:30	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		05/06/16 16:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/06/16 16:30	108-10-1	
Styrene	ND	ug/L	1.0	1		05/06/16 16:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 16:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/06/16 16:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/06/16 16:30	127-18-4	
Toluene	ND	ug/L	1.0	1		05/06/16 16:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/06/16 16:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/06/16 16:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/06/16 16:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/06/16 16:30	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/06/16 16:30	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		05/06/16 16:30	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		05/06/16 16:30	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		05/06/16 16:30	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		05/06/16 16:30	179601-23-1	
o-Xylene	0.26J	ug/L	1.0	1		05/06/16 16:30	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		05/06/16 16:30	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130	1		05/06/16 16:30	17060-07-0	
Toluene-d8 (S)	93	%	70-130	1		05/06/16 16:30	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

QC Batch: MERP/9355 Analysis Method: EPA 7470
 QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
 Associated Lab Samples: 92296128001, 92296128002, 92296128003, 92296128004, 92296128005, 92296128006, 92296128007, 92296128008, 92296128009

METHOD BLANK: 1725311 Matrix: Water
 Associated Lab Samples: 92296128001, 92296128002, 92296128003, 92296128004, 92296128005, 92296128006, 92296128007, 92296128008, 92296128009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/05/16 09:44	

LABORATORY CONTROL SAMPLE: 1725312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.6	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1725313 1725314

Parameter	92295819001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
	Units	Result									
Mercury	ug/L	ND	2.5	2.5	2.5	2.6	101	102	75-125	2	

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QUALITY CONTROL DATA

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

QC Batch: MPRP/21594 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET NC Groundwater
 Associated Lab Samples: 92296128001, 92296128002, 92296128003, 92296128004, 92296128005, 92296128006, 92296128007, 92296128008, 92296128009

METHOD BLANK: 1725266 Matrix: Water
 Associated Lab Samples: 92296128001, 92296128002, 92296128003, 92296128004, 92296128005, 92296128006, 92296128007, 92296128008, 92296128009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	10.0	05/06/16 06:00	
Barium	ug/L	ND	5.0	05/06/16 06:00	
Cadmium	ug/L	ND	1.0	05/06/16 06:00	
Chromium	ug/L	ND	5.0	05/06/16 06:00	
Lead	ug/L	ND	5.0	05/06/16 06:00	
Selenium	ug/L	ND	10.0	05/06/16 06:00	
Silver	ug/L	ND	5.0	05/06/16 06:00	

LABORATORY CONTROL SAMPLE: 1725267

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	467	93	80-120	
Barium	ug/L	500	499	100	80-120	
Cadmium	ug/L	500	494	99	80-120	
Chromium	ug/L	500	482	96	80-120	
Lead	ug/L	500	498	100	80-120	
Selenium	ug/L	500	498	100	80-120	
Silver	ug/L	250	234	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1725268 1725269

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		92296128001 Result	Spike Conc.	Spike Conc.	MS Result					
Arsenic	ug/L	ND	500	500	484	478	97	96	75-125	1
Barium	ug/L	21.8J	500	500	521	508	100	97	75-125	2
Cadmium	ug/L	ND	500	500	499	490	100	98	75-125	2
Chromium	ug/L	ND	500	500	481	470	96	94	75-125	2
Lead	ug/L	ND	500	500	482	472	96	94	75-125	2
Selenium	ug/L	ND	500	500	500	490	99	97	75-125	2
Silver	ug/L	ND	250	250	238	233	95	93	75-125	2

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QUALITY CONTROL DATA

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

QC Batch: MSV/36725 Analysis Method: EPA 8260
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
 Associated Lab Samples: 92296128001, 92296128002, 92296128003, 92296128004, 92296128005, 92296128006, 92296128007, 92296128008, 92296128009, 92296128010

METHOD BLANK: 1727800 Matrix: Water
 Associated Lab Samples: 92296128001, 92296128002, 92296128003, 92296128004, 92296128005, 92296128006, 92296128007, 92296128008, 92296128009, 92296128010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/06/16 11:54	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/06/16 11:54	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/06/16 11:54	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/06/16 11:54	
1,1-Dichloroethane	ug/L	ND	1.0	05/06/16 11:54	
1,1-Dichloroethene	ug/L	ND	1.0	05/06/16 11:54	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/06/16 11:54	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/06/16 11:54	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/06/16 11:54	
1,2-Dichloroethane	ug/L	ND	1.0	05/06/16 11:54	
1,2-Dichloropropane	ug/L	ND	1.0	05/06/16 11:54	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/06/16 11:54	
2-Butanone (MEK)	ug/L	ND	5.0	05/06/16 11:54	
2-Hexanone	ug/L	ND	5.0	05/06/16 11:54	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/06/16 11:54	
Acetone	ug/L	ND	25.0	05/06/16 11:54	
Acrylonitrile	ug/L	ND	10.0	05/06/16 11:54	
Benzene	ug/L	ND	1.0	05/06/16 11:54	
Bromochloromethane	ug/L	ND	1.0	05/06/16 11:54	
Bromodichloromethane	ug/L	ND	1.0	05/06/16 11:54	
Bromoform	ug/L	ND	1.0	05/06/16 11:54	
Bromomethane	ug/L	ND	2.0	05/06/16 11:54	
Carbon disulfide	ug/L	ND	2.0	05/06/16 11:54	
Carbon tetrachloride	ug/L	ND	1.0	05/06/16 11:54	
Chlorobenzene	ug/L	ND	1.0	05/06/16 11:54	
Chloroethane	ug/L	ND	1.0	05/06/16 11:54	
Chloroform	ug/L	ND	1.0	05/06/16 11:54	
Chloromethane	ug/L	ND	1.0	05/06/16 11:54	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/06/16 11:54	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/06/16 11:54	
Dibromochloromethane	ug/L	ND	1.0	05/06/16 11:54	
Dibromomethane	ug/L	ND	1.0	05/06/16 11:54	
Ethylbenzene	ug/L	ND	1.0	05/06/16 11:54	
Iodomethane	ug/L	ND	5.0	05/06/16 11:54	
m&p-Xylene	ug/L	ND	2.0	05/06/16 11:54	
Methylene Chloride	ug/L	ND	1.0	05/06/16 11:54	
o-Xylene	ug/L	ND	1.0	05/06/16 11:54	
Styrene	ug/L	ND	1.0	05/06/16 11:54	
Tetrachloroethene	ug/L	ND	1.0	05/06/16 11:54	
Toluene	ug/L	ND	1.0	05/06/16 11:54	

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QUALITY CONTROL DATA

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

METHOD BLANK: 1727800

Matrix: Water

Associated Lab Samples: 92296128001, 92296128002, 92296128003, 92296128004, 92296128005, 92296128006, 92296128007, 92296128008, 92296128009, 92296128010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/06/16 11:54	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/06/16 11:54	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	05/06/16 11:54	
Trichloroethene	ug/L	ND	1.0	05/06/16 11:54	
Trichlorofluoromethane	ug/L	ND	1.0	05/06/16 11:54	
Vinyl acetate	ug/L	ND	2.0	05/06/16 11:54	
Vinyl chloride	ug/L	ND	1.0	05/06/16 11:54	
Xylene (Total)	ug/L	ND	2.0	05/06/16 11:54	
1,2-Dichloroethane-d4 (S)	%	95	70-130	05/06/16 11:54	
4-Bromofluorobenzene (S)	%	100	70-130	05/06/16 11:54	
Toluene-d8 (S)	%	96	70-130	05/06/16 11:54	

LABORATORY CONTROL SAMPLE: 1727801

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	45.7	91	80-125	
1,1,1-Trichloroethane	ug/L	50	46.4	93	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	48.5	97	79-124	
1,1,2-Trichloroethane	ug/L	50	49.1	98	85-125	
1,1-Dichloroethane	ug/L	50	46.2	92	73-126	
1,1-Dichloroethene	ug/L	50	51.0	102	66-135	
1,2,3-Trichloropropane	ug/L	50	46.0	92	75-130	
1,2-Dibromoethane (EDB)	ug/L	50	47.2	94	83-124	
1,2-Dichlorobenzene	ug/L	50	48.1	96	80-133	
1,2-Dichloroethane	ug/L	50	47.2	94	67-128	
1,2-Dichloropropane	ug/L	50	47.1	94	75-132	
1,4-Dichlorobenzene	ug/L	50	50.9	102	78-130	
2-Butanone (MEK)	ug/L	100	114	114	61-144	
2-Hexanone	ug/L	100	101	101	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.7	99	72-135	
Acetone	ug/L	100	114	114	48-146	
Acrylonitrile	ug/L	250	236	95	40-160	
Benzene	ug/L	50	47.7	95	80-125	
Bromochloromethane	ug/L	50	48.3	97	71-125	
Bromodichloromethane	ug/L	50	52.1	104	78-124	
Bromoform	ug/L	50	48.7	97	71-128	
Bromomethane	ug/L	50	16.2	32	40-160	L0
Carbon disulfide	ug/L	50	53.9	108	50-160	
Carbon tetrachloride	ug/L	50	51.1	102	69-131	
Chlorobenzene	ug/L	50	49.6	99	81-122	
Chloroethane	ug/L	50	48.9	98	39-148	
Chloroform	ug/L	50	48.5	97	73-127	
Chloromethane	ug/L	50	32.7	65	44-146	

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QUALITY CONTROL DATA

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

LABORATORY CONTROL SAMPLE: 1727801

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	45.5	91	74-124	
cis-1,3-Dichloropropene	ug/L	50	47.9	96	72-132	
Dibromochloromethane	ug/L	50	49.8	100	78-125	
Dibromomethane	ug/L	50	58.3	117	82-120	
Ethylbenzene	ug/L	50	48.2	96	79-121	
Iodomethane	ug/L	100	57.8	58	39-154	
m&p-Xylene	ug/L	100	97.3	97	81-124	
Methylene Chloride	ug/L	50	42.7	85	64-133	
o-Xylene	ug/L	50	46.6	93	79-131	
Styrene	ug/L	50	47.8	96	84-126	
Tetrachloroethene	ug/L	50	53.4	107	78-122	
Toluene	ug/L	50	50.2	100	80-121	
trans-1,2-Dichloroethene	ug/L	50	50.9	102	71-127	
trans-1,3-Dichloropropene	ug/L	50	47.1	94	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	45.9	92	40-160	
Trichloroethene	ug/L	50	50.7	101	78-122	
Trichlorofluoromethane	ug/L	50	50.9	102	53-137	
Vinyl acetate	ug/L	100	92.8	93	40-160	
Vinyl chloride	ug/L	50	43.3	87	58-137	
Xylene (Total)	ug/L	150	144	96	81-126	
1,2-Dichloroethane-d4 (S)	%			89	70-130	
4-Bromofluorobenzene (S)	%			106	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1727803

Parameter	Units	92296179004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	22.4	112	70-130	
1,1,1-Trichloroethane	ug/L	ND	20	23.4	117	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	23.9	120	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	22.9	115	70-130	
1,1-Dichloroethane	ug/L	28.4	20	48.5	100	70-130	
1,1-Dichloroethene	ug/L	ND	20	24.9	123	70-166	
1,2,3-Trichloropropane	ug/L	ND	20	22.6	113	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	23.4	117	70-130	
1,2-Dichlorobenzene	ug/L	0.54J	20	24.2	118	70-130	
1,2-Dichloroethane	ug/L	ND	20	22.7	114	70-130	
1,2-Dichloropropane	ug/L	ND	20	24.1	120	70-130	
1,4-Dichlorobenzene	ug/L	15.0	20	39.0	120	70-130	
2-Butanone (MEK)	ug/L	ND	40	49.2	123	70-130	
2-Hexanone	ug/L	ND	40	48.7	122	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	47.6	119	70-130	
Acetone	ug/L	41.5J	40	53.2	29	70-130 M1	
Acrylonitrile	ug/L	ND	100	109	109	70-130	
Benzene	ug/L	14.1	20	38.9	124	70-148	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

MATRIX SPIKE SAMPLE: 1727803		92296179004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromochloromethane	ug/L	ND	20	22.5	113	70-130	
Bromodichloromethane	ug/L	ND	20	21.7	109	70-130	
Bromoform	ug/L	ND	20	22.1	111	70-130	
Bromomethane	ug/L	ND	20	6.0	30	70-130	M0
Carbon disulfide	ug/L	ND	20	26.3	132	70-130	M1
Carbon tetrachloride	ug/L	ND	20	24.6	123	70-130	
Chlorobenzene	ug/L	0.81J	20	24.6	119	70-146	
Chloroethane	ug/L	ND	20	28.6	143	70-130	M1
Chloroform	ug/L	ND	20	22.8	114	70-130	
Chloromethane	ug/L	ND	20	15.5	77	70-130	
cis-1,2-Dichloroethene	ug/L	23.9	20	44.1	101	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	23.2	116	70-130	
Dibromochloromethane	ug/L	ND	20	22.0	110	70-130	
Dibromomethane	ug/L	ND	20	27.4	137	70-130	M1
Ethylbenzene	ug/L	4.6	20	30.2	128	70-130	
Iodomethane	ug/L	ND	40	11.6	29	70-130	M1
m&p-Xylene	ug/L	41.6	40	95.7	135	70-130	M1
Methylene Chloride	ug/L	30.5	20	47.9	87	70-130	
o-Xylene	ug/L	30.8	20	49.2	92	70-130	
Styrene	ug/L	ND	20	23.2	116	70-130	
Tetrachloroethene	ug/L	7.6	20	33.5	130	70-130	
Toluene	ug/L	38.2	20	76.9	194	70-155	M1
trans-1,2-Dichloroethene	ug/L	ND	20	22.7	113	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	20.9	105	70-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	20	20.1	101	70-130	
Trichloroethene	ug/L	10.1	20	36.1	130	69-151	
Trichlorofluoromethane	ug/L	ND	20	25.7	128	70-130	
Vinyl acetate	ug/L	ND	40	40.7	102	70-130	
Vinyl chloride	ug/L	ND	20	22.7	114	70-130	
1,2-Dichloroethane-d4 (S)	%				88	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 1727802

Parameter	Units	92296179003	Dup	RPD	Qualifiers
		Result	Result		
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		
1,1,1-Trichloroethane	ug/L	ND	ND		
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		
1,1,2-Trichloroethane	ug/L	ND	ND		
1,1-Dichloroethane	ug/L	23.4	ND		
1,1-Dichloroethene	ug/L	ND	ND		
1,2,3-Trichloropropane	ug/L	ND	ND		
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1,2-Dichlorobenzene	ug/L	ND	ND		

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QUALITY CONTROL DATA

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

SAMPLE DUPLICATE: 1727802

Parameter	Units	92296179003 Result	Dup Result	RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		
1,2-Dichloropropane	ug/L	ND	ND		
1,4-Dichlorobenzene	ug/L	6.0	ND		
2-Butanone (MEK)	ug/L	ND	ND		
2-Hexanone	ug/L	ND	ND		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		
Acetone	ug/L	ND	ND		
Acrylonitrile	ug/L	ND	ND		
Benzene	ug/L	2.9	ND		
Bromochloromethane	ug/L	ND	ND		
Bromodichloromethane	ug/L	ND	ND		
Bromoform	ug/L	ND	ND		
Bromomethane	ug/L	ND	ND		
Carbon disulfide	ug/L	ND	ND		
Carbon tetrachloride	ug/L	ND	ND		
Chlorobenzene	ug/L	0.94J	ND		
Chloroethane	ug/L	ND	ND		
Chloroform	ug/L	ND	ND		
Chloromethane	ug/L	ND	ND		
cis-1,2-Dichloroethene	ug/L	9.6	ND		
cis-1,3-Dichloropropene	ug/L	ND	ND		
Dibromochloromethane	ug/L	ND	ND		
Dibromomethane	ug/L	ND	ND		
Ethylbenzene	ug/L	1.4	ND		
Iodomethane	ug/L	ND	ND		
m&p-Xylene	ug/L	ND	ND		
Methylene Chloride	ug/L	ND	ND		
o-Xylene	ug/L	0.30J	ND		
Styrene	ug/L	ND	ND		
Tetrachloroethene	ug/L	ND	ND		
Toluene	ug/L	ND	ND		
trans-1,2-Dichloroethene	ug/L	ND	ND		
trans-1,3-Dichloropropene	ug/L	ND	ND		
trans-1,4-Dichloro-2-butene	ug/L	ND	ND		
Trichloroethene	ug/L	1.8	ND		
Trichlorofluoromethane	ug/L	ND	ND		
Vinyl acetate	ug/L	ND	ND		
Vinyl chloride	ug/L	0.74J	ND		
Xylene (Total)	ug/L	ND	ND		
1,2-Dichloroethane-d4 (S)	%	92	78	16	
4-Bromofluorobenzene (S)	%	99	72	32	
Toluene-d8 (S)	%	97	99	2	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CASWELL CO LF 1584-07-034A
Pace Project No.: 92296128

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.
A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

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

ANALYTE QUALIFIERS

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CASWELL CO LF 1584-07-034A

Pace Project No.: 92296128

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92296128001	MW-1	EPA 3010A	MPRP/21594	EPA 6010	ICP/19386
92296128002	MW-2	EPA 3010A	MPRP/21594	EPA 6010	ICP/19386
92296128003	MW-3	EPA 3010A	MPRP/21594	EPA 6010	ICP/19386
92296128004	MW-4	EPA 3010A	MPRP/21594	EPA 6010	ICP/19386
92296128005	MW-5	EPA 3010A	MPRP/21594	EPA 6010	ICP/19386
92296128006	MW-6	EPA 3010A	MPRP/21594	EPA 6010	ICP/19386
92296128007	SW-1	EPA 3010A	MPRP/21594	EPA 6010	ICP/19386
92296128008	SW-2	EPA 3010A	MPRP/21594	EPA 6010	ICP/19386
92296128009	DUPLICATE	EPA 3010A	MPRP/21594	EPA 6010	ICP/19386
92296128001	MW-1	EPA 7470	MERP/9355	EPA 7470	MERC/8997
92296128002	MW-2	EPA 7470	MERP/9355	EPA 7470	MERC/8997
92296128003	MW-3	EPA 7470	MERP/9355	EPA 7470	MERC/8997
92296128004	MW-4	EPA 7470	MERP/9355	EPA 7470	MERC/8997
92296128005	MW-5	EPA 7470	MERP/9355	EPA 7470	MERC/8997
92296128006	MW-6	EPA 7470	MERP/9355	EPA 7470	MERC/8997
92296128007	SW-1	EPA 7470	MERP/9355	EPA 7470	MERC/8997
92296128008	SW-2	EPA 7470	MERP/9355	EPA 7470	MERC/8997
92296128009	DUPLICATE	EPA 7470	MERP/9355	EPA 7470	MERC/8997
92296128001	MW-1	EPA 8260	MSV/36725		
92296128002	MW-2	EPA 8260	MSV/36725		
92296128003	MW-3	EPA 8260	MSV/36725		
92296128004	MW-4	EPA 8260	MSV/36725		
92296128005	MW-5	EPA 8260	MSV/36725		
92296128006	MW-6	EPA 8260	MSV/36725		
92296128007	SW-1	EPA 8260	MSV/36725		
92296128008	SW-2	EPA 8260	MSV/36725		
92296128009	DUPLICATE	EPA 8260	MSV/36725		
92296128010	TRIP BLANK	EPA 8260	MSV/36725		

REPORT OF LABORATORY ANALYSIS

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Document Name:
Sample Condition Upon Receipt(SCUR)
 Document No.:
F-CHR-CS-003-rev.18

Document Revised: 18FEB2016
 Page 1 of 2
 Issuing Authority:
 Pace Huntersville Quality Office

WO# : 92296128

92296128

Sample Condition Upon Receipt

Client Name: Same Project # _____

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

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: DM 5/3

Packing Material: Bubble Wrap Bubble Bags None Other: _____

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

Correction Factor: 0.0°C Cooler Temp Corrected (°C): 3.16 Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 6°C
 USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

	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 and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input 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 type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
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 acid/base 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 type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
(HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC,LLHg	
Samples checked for dechlorination <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>5-6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager SCURF Review: TC Date: 5/3/16

Project Manager SRF Review: TC Date: 5/4/16

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)

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: **Sime, Inc.** Report To: **Ed Hernandez** Section B Required Project Information: Invoice Information: Attention: Company Name: Address: **GREENSBORO, NC 27409** Copy To: **GREENSBORO, NC 27409** Purchase Order No.: **CASWELL COUNTY LF** Section C Requested Analysis Information: Requested Analysis Filtered (Y/N) REGULATORY AGENCY: NPDES GROUND WATER DRINKING WATER UST RCRA OTHER: **NC** Page: **1** of **1** **2043116**

Address: **286 W MARKET ST. SUITE 105**
 Email To: **GREENSBORO, NC 27409**
 Phone: **288-7180** Fax: **288-7180**
 Project Name: **CASWELL COUNTY LF**
 Project Number: **1584-07-034A**
 Requested Due Date/TAT: **1108-**
 Pace Profile #: **1108-**
 Site Location STATE: **NC**

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	Matrix Code	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	DATE	TIME	DATE	TIME	DATE				
1	MW-1			G		5/2/16	1530	4										001	
2	MW-2			G		5/2/16	1000	4										002	
3	MW-3			G		5/2/16	1200	4										003	
4	MW-4			G		5/2/16	1100	4										004	
5	MW-5			G		5/2/16	1300	4										005	
6	MW-6			G		5/2/16	1400	4										006	
7	SW-1			G		5/2/16	1445	4										007	
8	SW-2			G		5/2/16	1415	4										008	
9	DUPU CARTE			G		5/2/16	0900	4										009	
10	TRUB BLANK			G				2										010	
11																			
12																			

ADDITIONAL COMMENTS: **Relinquished by Pace**

RELIQUISHED BY / AFFILIATION: **Pace** DATE: **5/2/16** TIME: **1530**

ACCEPTED BY / AFFILIATION: **Jessie FROST** DATE: **5/2** TIME: **1152**

DATE Signed (MM/DD/YY): **5/2/16**

Temp in °C: _____

Received on Ice (Y/N): _____

Custody Sealed Cooler (Y/N): _____

Samples Intact (Y/N): _____

SAMPLER NAME AND SIGNATURE: **GARY SIMONX**

PRINT Name of SAMPLER: **GARY SIMONX**

SIGNATURE of SAMPLER: *[Signature]*

DATE Signed (MM/DD/YY): **5/2/16**

ORIGINAL

Appendix III – NC DENR Electronic Data Deliverables