
Semi-Annual Water Quality Monitoring Report

Prepared for

Hertford County Closed Unlined MSWLF
Winton, North Carolina

December 2012

Permit Number: 46-01

MESCO Project Number: G12012.0

Submitted on April 1, 2013

P.O. Box 97
Garner, NC 27529
License No. C-0281



Municipal Engineering Services Company, P.A.
Garner and Boone, North Carolina

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

Instructions:

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

Solid Waste Monitoring Data Submittal Information

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

Municipal Engineering Services Co., PA

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

Name: Jonathan Pfohl Phone: (919)772-5393

E-mail: jpfohl@mesco.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Hertford County Closed Unlined MSWLF	227 Mount Moriah Road Winton, NC 27986	46-01	.0500	December 12, 2012

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
 Surface water monitoring data
 Other(specify) _____

Notification attached?

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

Certification

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

D. Mark Durway, L.G. Geologist (919) 772-5393
 Facility Representative Name (Print) Title (Area Code) Telephone Number
D. Mark Durway 4.11.13 Affix NC Licensed/ Professional Geologist Seal
 Signature Date

P.O. Box 97, Garner, NC 27529

Facility Representative Address

C-0281

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



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April 1, 2013

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

Re: ***Semi-Annual Water Quality Monitoring Report***
 Hertford County Closed Unlined Landfill
 Event Date: December 12, 2012
 Permit No. 46-01
 MESCO Project No. G12012.0

Dear Mr. Lane:

Introduction

The Hertford County Closed Unlined MSWLF located near Winton, North Carolina operated under permit 46-01 and is required to submit semi-annual compliance reports as a condition of rule 15A NCAC 13B .0500. This water quality monitoring event was reportedly performed by Environment 1 Incorporated (E1) personnel of Greenville NC on December 12, 2012 in accordance with the semi-annual monitoring schedule prescribed by the NC Solid Waste Section (SWS) rules/regulations. Laboratory analytical results indicate concentrations of volatile organic compounds (VOCs) in levels above the 2L Standard continue to persist in the surficial aquifer at nine locations, but natural attenuation processes appear to be occurring. An unprecedented concentration of total mercury was also detected above the 2L Standard at one location.

Water quality monitoring at this facility includes sampling at locations outlined in the approved site specific Sampling and Analysis Plan (SAP) submitted in the facility *Transition Plan* in November 1995. As required in SWS rules and the SWS Environmental Monitoring Report Form, this report contains sampling procedures, field and laboratory results, groundwater and surface water characterization, and findings. A detections compared to standards table, groundwater flow directions and rates table, groundwater potentiometric map, quality assurance/quality control data, and laboratory analytical data are also provided.

Sampling Procedures

During the December 2012 sampling event, water samples were collected from thirteen groundwater monitoring wells (MW-A through MW-M) and three surface water sample points (SW-1 through SW-3). Quality control measures were also implemented during this event which included submittal and subsequent quantification of an equipment blank (EB) and trip blank (TB). Surface water point SW-4 was not sampled since reported to be dry. Monitoring locations are shown on **Figure 1**.

Sampling was reported to be performed using methods outlined in the NCDENR *Solid Waste Section Guidelines for Groundwater, Soil, and Surface Water Sampling* revised April 2008. Static water levels were measured, and a potentiometric map was constructed, as provided in **Figure 1**. Samples were transported under chain-of-custody (C-O-C) protocol within the specified hold times for each analysis.

Field Parameter Data

Field parameters (pH, specific conductance and temperature) were recorded and are presented in the laboratory report in **Appendix A**. Field parameters appear generally consistent with historically reported data.

Laboratory Results

Groundwater, surface water and quality control samples were analyzed for VOCs and total metals as listed in 40 CFR 258 Appendix I. Additionally, groundwater samples and the quality control equipment blank was tested for total mercury.

Water samples were reported to laboratory specific Method Detection Limits (MDL) which are quantifiable at or below current Solid Waste Section Limits (SWSL). **Table 1** summarizes constituents detected in water samples in concentrations exceeding the current SWSL, Groundwater Protection Standards (GWP), North Carolina Groundwater Standards (2L) or the North Carolina Surface Water Standards (2B) for Class C surface waters. Laboratory results and C-O-Cs are presented in **Appendix A**.

Quality Control Samples

Half of the targeted total metals were detected in low concentrations in the equipment blank EB; however, it appears that this laboratory/field induced artifact contamination had no effect on the validity of the data set.

Groundwater Samples

MW-I contained concentrations of total cadmium, total chromium and total mercury above the 2L Standards. One or more VOCs were detected in concentrations above their respective 2L Standards in MW-A, MW-B, MW-D, MW-E, MW-F, MW-G, MW-I, MW-J, and MW-L. Vinyl chloride, a common biodegradation byproduct of reductive dechlorination, continues to be the most prevalently detected contaminant.

Surface Water Samples

There were no constituents detected above established 2B Standards in any of the surface water samples.

Groundwater and Surface Water Characterization

A potentiometric map constructed from groundwater elevation data obtained by E1 during the December 12, 2012 event is presented as **Figure 1**. Groundwater flow rates and directions were calculated and are included on **Table 2**. Groundwater in the surficial aquifer flows in a general north-northwestern direction towards Potecasi Creek. Groundwater flow rates range from about 1 ft/yr (MW-C) to 66 ft/yr (MW-H), and average 23 ft/yr. Flow directions and gradients are consistent with historical observations.

Findings

Results from the latest semi-annual sampling event indicate that contaminants continue to persist at levels above 2L Standards in nine wells that monitor the surficial aquifer. Landfill gas (LFG) has previously been detected at the facility and may be a factor in the occurrence and migration of contaminants in groundwater, especially in MW-A, MW-B and MW-G which are located hydraulically upgradient of the waste boundary. An active LFG extraction system has been in operation along the western property boundary since 2003 to reduce LFG migration through the vadose and improve groundwater quality. The latest data indicates that the water quality has not degraded compared to past events as all constituents detected in exceedance of the 2L Standard have previously been detected at their respective locations and all concentrations remained within their own historically identified range with the exception of total mercury in MW-I.

The facility is located in a rural setting and the residents in closest proximity to the property boundary are connected to municipal water, limiting the potential of human exposure to groundwater.

Closing

Water quality monitoring at the facility will continue and the next event is tentatively scheduled for June 2013. If you have any questions or comments regarding this report, please contact us by phone at (919) 772-5393 or by email at jpfohl@mesco.com or mdurway@mesco.com.

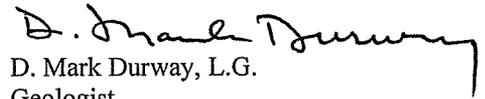
Sincerely,
MUNICIPAL ENGINEERING SERVICES CO., P.A.



Jonathan Pfohl
Environmental Specialist

Enclosures

cc: Mr. Mike Bradley
Hertford County



D. Mark Durway, L.G.
Geologist



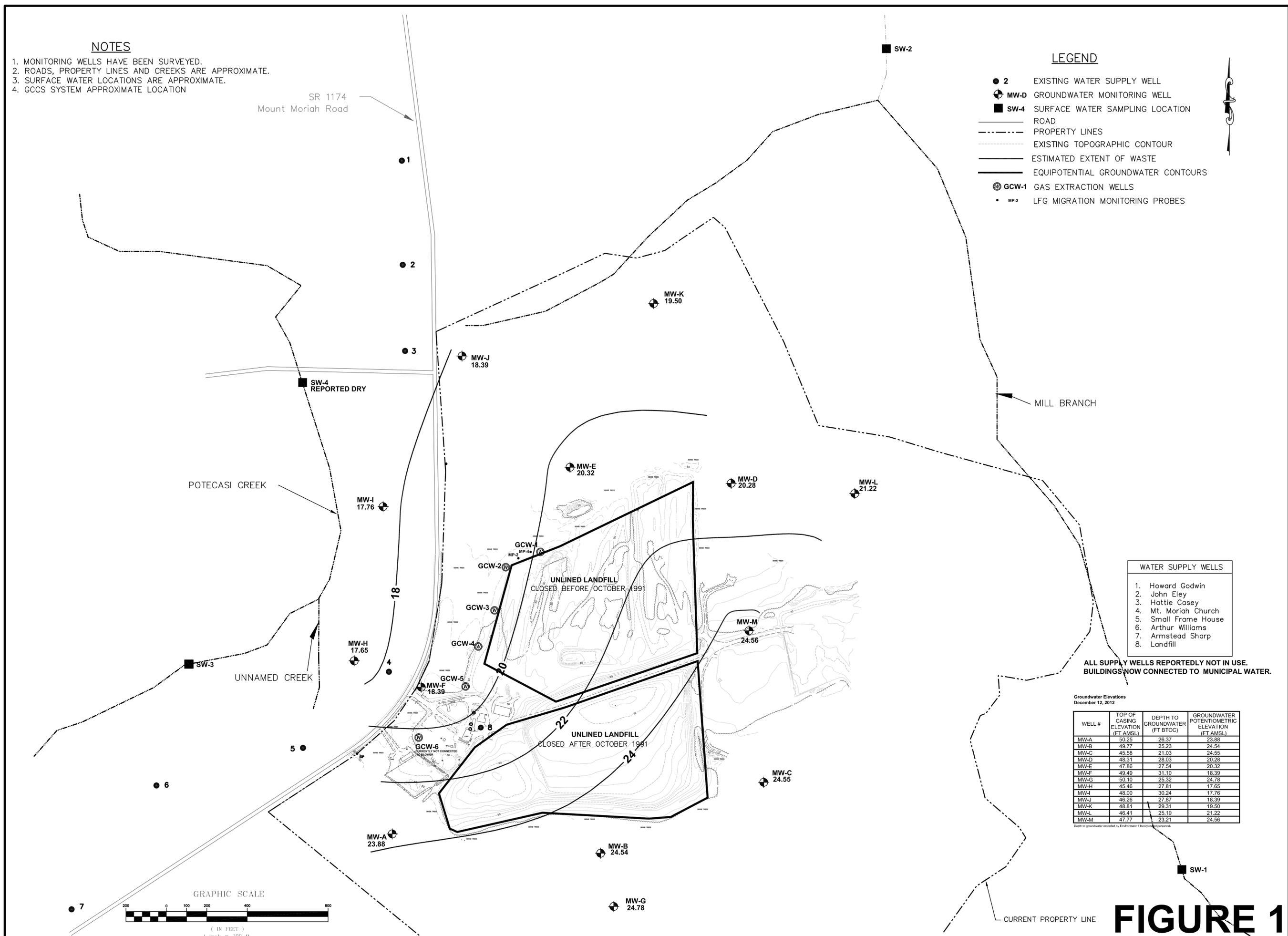
Figures

NOTES

1. MONITORING WELLS HAVE BEEN SURVEYED.
2. ROADS, PROPERTY LINES AND CREEKS ARE APPROXIMATE.
3. SURFACE WATER LOCATIONS ARE APPROXIMATE.
4. GCCS SYSTEM APPROXIMATE LOCATION

LEGEND

- 2 EXISTING WATER SUPPLY WELL
- ⊕ MW-D GROUNDWATER MONITORING WELL
- SW-4 SURFACE WATER SAMPLING LOCATION
- ROAD
- - - - - PROPERTY LINES
- EXISTING TOPOGRAPHIC CONTOUR
- ESTIMATED EXTENT OF WASTE
- EQUIPOTENTIAL GROUNDWATER CONTOURS
- ⊕ GCW-1 GAS EXTRACTION WELLS
- MP-2 LFG MIGRATION MONITORING PROBES



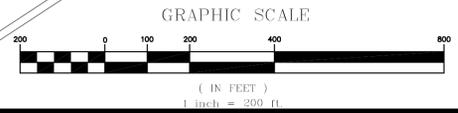
WATER SUPPLY WELLS	
1.	Howard Godwin
2.	John Eley
3.	Hattie Casey
4.	Mt. Moriah Church
5.	Small Frame House
6.	Arthur Williams
7.	Armstead Sharp
8.	Landfill

ALL SUPPLY WELLS REPORTEDLY NOT IN USE. BUILDINGS NOW CONNECTED TO MUNICIPAL WATER.

Groundwater Elevations
December 12, 2012

WELL #	TOP OF CASING ELEVATION (FT AMSL)	DEPTH TO GROUNDWATER (FT BTWC)	GROUNDWATER POTENTIOMETRIC ELEVATION (FT AMSL)
MW-A	50.25	26.37	23.88
MW-B	49.77	25.23	24.54
MW-C	45.58	21.03	24.55
MW-D	48.31	28.03	20.28
MW-E	47.85	27.54	20.32
MW-F	49.49	31.10	18.39
MW-G	50.10	25.32	24.78
MW-H	45.46	27.81	17.65
MW-I	48.00	30.24	17.76
MW-J	46.26	27.87	18.39
MW-K	48.81	29.31	19.50
MW-L	46.41	25.19	21.22
MW-M	47.77	23.21	24.56

Depth to groundwater recorded by Environment 1 Hydrologic Services.



Engineering Company, P.A.
 P.O. BOX 346 BOONE, N.C. 27929
 (704) 262-1767
Municipal Services
 P.O. BOX 87 CARMER, N.C. 27529
 (819) 774-5393
 LICENSE #C-0281

CLOSED UNLINED LANDFILL FACILITY
HERTFORD COUNTY
NORTH CAROLINA

SINGLE DAY POTENTIOMETRIC MAP
 UPPERMOST AQUIFER

DATE	BY	REV.	DESCRIPTION

SCALE: 1" = 200'
 DATE: 3/20/13
 DRWN. BY: J. PFOHL
 CHKD. BY: M. DURWAY
 PROJECT NUMBER: G12012.0
 DRAWING NO. SHEET NO.
 FIGURE 1 1 OF 1

FIGURE 1

Tables

Table 1
Detections in Water Samples that Attain or Exceed SWSL, GWP, 2L or 2B
December 12, 2012

Sample ID	Parameter Name ¹	Sample Date	Result	Unit	MDL ²	SWSL ³	2L ⁴	2B ⁵	GWP ⁶	Exceedance Amount	Preliminary Cause ⁷
MW-A	Benzene	12/12/2012	1.3	ug/l	0.24	1	1			0.3	L &/or LFG
MW-A	Cobalt, total	12/12/2012	200	ug/l	0.02	10			70	130	
MW-A	Zinc, total	12/12/2012	14	ug/l	0.48	10	1050				
MW-A	1,4-Dichlorobenzene	12/12/2012	1	ug/l	0.39	1	6				
MW-A	Barium, total	12/12/2012	131	ug/l	0.07	100	700				
MW-A	Chlorobenzene	12/12/2012	4.5	ug/l	0.3	3	50				
MW-B	Vinyl Chloride	12/12/2012	3	ug/l	0.63	1	0.03			2.97	L &/or LFG
MW-B	Cobalt, total	12/12/2012	276	ug/l	0.02	10			70	206	
MW-B	Cis-1,2-Dichloroethene	12/12/2012	20.3	ug/l	0.25	5	70				
MW-B	Barium, total	12/12/2012	178	ug/l	0.07	100	700				
MW-B	Trichloroethene	12/12/2012	2.2	ug/l	0.23	1	2.8				
MW-C	Beryllium, total	12/12/2012	1	ug/l	0.07	1			4		
MW-C	Zinc, total	12/12/2012	56	ug/l	0.48	10	1050				
MW-D	Vinyl Chloride	12/12/2012	0.8 j	ug/l	0.63	1	0.03			0.77	L &/or LFG
MW-D	Barium, total	12/12/2012	113	ug/l	0.07	100	700				
MW-D	Cobalt, total	12/12/2012	54	ug/l	0.02	10			70		
MW-D	Zinc, total	12/12/2012	77	ug/l	0.48	10	1050				
MW-E	Benzene	12/12/2012	2.1	ug/l	0.24	1	1			1.1	L &/or LFG
MW-E	Barium, total	12/12/2012	109	ug/l	0.07	100	700				
MW-E	Chlorobenzene	12/12/2012	19.9	ug/l	0.3	3	50				
MW-E	1,4-Dichlorobenzene	12/12/2012	5.7	ug/l	0.39	1	6				
MW-E	Cobalt, total	12/12/2012	38	ug/l	0.02	10			70		
MW-F	Benzene	12/12/2012	3.3	ug/l	0.24	1	1			2.3	L &/or LFG
MW-F	Vinyl Chloride	12/12/2012	14.3	ug/l	0.63	1	0.03			14.27	L &/or LFG
MW-F	Cobalt, total	12/12/2012	174	ug/l	0.02	10			70	104	
MW-F	Zinc, total	12/12/2012	48	ug/l	0.48	10	1050				
MW-F	Trichloroethene	12/12/2012	1.9	ug/l	0.23	1	2.8				
MW-F	Cis-1,2-Dichloroethene	12/12/2012	41	ug/l	0.25	5	70				
MW-F	1,4-Dichlorobenzene	12/12/2012	5.1	ug/l	0.39	1	6				
MW-F	Chlorobenzene	12/12/2012	17.6	ug/l	0.3	3	50				
MW-F	Barium, total	12/12/2012	470	ug/l	0.07	100	700				
MW-G	Vinyl Chloride	12/12/2012	1.3	ug/l	0.63	1	0.03			1.27	L &/or LFG
MW-G	Cobalt, total	12/12/2012	19	ug/l	0.02	10			70		
MW-G	Barium, total	12/12/2012	120	ug/l	0.07	100	700				
MW-G	Zinc, total	12/12/2012	39	ug/l	0.48	10	1050				
MW-H	Thallium, total	12/12/2012	10	ug/l	0.07	5.5			0.28	9.72	
MW-H	Cobalt, total	12/12/2012	210	ug/l	0.02	10			70	140	
MW-H	Zinc, total	12/12/2012	73	ug/l	0.48	10	1050				
MW-H	Barium, total	12/12/2012	189	ug/l	0.07	100	700				
MW-H	Cis-1,2-Dichloroethene	12/12/2012	5	ug/l	0.25	5	70				
MW-H	Nickel, total	12/12/2012	93	ug/l	0.06	50	100				

Sample ID	Parameter Name ¹	Sample Date	Result	Unit	MDL ²	SWSL ³	2L ⁴	2B ⁵	GWP ⁶	Exceedance Amount	Preliminary Cause ⁷
MW-I	Vanadium, total	12/12/2012	16 j	ug/l	0.1	25			3.5		
MW-I	1,4-Dichlorobenzene	12/12/2012	6.2	ug/l	0.39	1	6			0.2	L &/or LFG
MW-I	Chromium, total	12/12/2012	11	ug/l	0.18	10	10			1	N
MW-I	Benzene	12/12/2012	3.3	ug/l	0.24	1	1			2.3	L &/or LFG
MW-I	Mercury, total	12/12/2012	6.9	ug/l	0.02	0.2	1.05			5.85	
MW-I	Cadmium, total	12/12/2012	9	ug/l	0.03	1	1.75			7.25	N
MW-I	Vinyl Chloride	12/12/2012	7.3	ug/l	0.63	1	0.03			7.27	L &/or LFG
MW-I	Zinc, total	12/12/2012	801	ug/l	0.48	10	1050				
MW-I	Lead, total	12/12/2012	10	ug/l	0.08	10	15				
MW-I	Beryllium, total	12/12/2012	1	ug/l	0.07	1			4		
MW-I	Chlorobenzene	12/12/2012	21	ug/l	0.3	3	50				
MW-I	Cobalt, total	12/12/2012	52	ug/l	0.02	10			70		
MW-I	Barium, total	12/12/2012	231	ug/l	0.07	100	700				
MW-J	Tetrachloroethene	12/12/2012	1	ug/l	0.17	1	0.7			0.3	L &/or LFG
MW-J	Vinyl Chloride	12/12/2012	2.1	ug/l	0.63	1	0.03			2.07	L &/or LFG
MW-J	Zinc, total	12/12/2012	12	ug/l	0.48	10	1050				
MW-K	Zinc, total	12/12/2012	11	ug/l	0.48	10	1050				
MW-L	Vinyl Chloride	12/12/2012	1.8	ug/l	0.63	1	0.03			1.77	L &/or LFG
MW-L	Cobalt, total	12/12/2012	120	ug/l	0.02	10			70	50	
MW-L	Barium, total	12/12/2012	110	ug/l	0.07	100	700				
MW-L	Zinc, total	12/12/2012	15	ug/l	0.48	10	1050				
SW-1	Vanadium, total	12/12/2012	3.6	ug/l	0.1	25		NE			
SW-1	Cobalt, total	12/12/2012	15	ug/l	0.02	10		270			
SW-2	Zinc, total	12/12/2012	14	ug/l	0.48	10		50			
SW-2	Toluene	12/12/2012	1.6	ug/l	0.23	1		11			
EB	Zinc, total	12/12/2012	11	ug/l	0.48	10	1050				

¹ Table contains constituents detected at or above SWSL, GWP, 2L, or 2B

² MDL = Method Detection Limit

³ SWSL = Solid Waste Section Reporting Limit

⁴ 2L = North Carolina 15A NCAC 2L Groundwater Quality Standard

⁵ 2B = North Carolina 15 NCAC 2B Surface Water Quality Standard for this Specific Stream Classification

⁶ GWP = Groundwater Protection Standard

j = The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable

⁷ Preliminary Cause = Refers to a preliminary analysis of the cause and/or source of a detection over the respective 2L/2B Standard.

A definitive source of the detection was not determined as part of this report.

NE = Not Established

L = Leachate

LFG = Landfill Gas

N = Natural from erosion of natural deposits

BOLD = Concentration > 2L, or 2B Standard

Table 2
Hydrologic Properties at Monitoring Well Locations
December 12, 2012

Monitoring Location	Hydraulic Conductivity (cm/second)	Effective Porosity (%)	Hydraulic Gradient (feet/feet)	Groundwater Average Linear Velocity Rate (feet/year)	Flow Direction	Depth to Groundwater (ft btoc)	Groundwater Potentiometric Elevation (ft amsl)	Screened Interval Lithology	Hydraulic Direction in Relation to Waste Limit
MW-A	7.30E-04	20	0.0018	7	N09W	26.37	23.88	Sand	Crossgradient
MW-B	6.90E-04	20	0.0019	7	N38W	25.23	24.54	Sand	Upgradient
MW-C	1.10E-04	20	0.0009	1	N53W	21.03	24.55	Clayey Sand	Upgradient
MW-D	4.40E-04	20	0.0065	15	N02W	28.03	20.28	Clayey Silt	Downgradient
MW-E	3.10E-03	20	0.0032	52	N60W	27.54	20.32	Sand	Downgradient
MW-F	3.10E-03	20	0.0018	28	N65W	31.10	18.39	Clayey Sand	Downgradient
MW-G	1.80E-03	20	0.0014	13	N33W	25.32	24.78	Sand	Upgradient
MW-H	4.60E-03	20	0.0028	66	N41W	27.81	17.65	Sand	Downgradient
MW-I	1.10E-03	20	0.0027	16	N85W	30.24	17.76	Sand	Downgradient
MW-J	1.20E-03	20	0.0065	40	N68W	27.87	18.39	Sand	Downgradient
MW-K	3.50E-03	20	0.0009	17	N00W	29.31	19.5	Sand	Downgradient
MW-L	1.60E-04	20	0.0028	2	N36W	25.19	21.22	Sand	Downgradient
MW-M	1.20E-03	20	0.0056	35	N03W	23.21	24.56	Sand	Crossgradient
Minimum	1.10E-04	20	0.0009	1	-	21.03	17.65	-	-
Average	1.67E-03	20	0.0030	23	-	26.79	21.22	-	-
Maximum	7.30E-04	20	0.0065	66	-	31.10	24.78	-	-

NOTE: Values for effective porosity & hydraulic conductivity obtained from GAI Consultants' *Assessment Report* (Feb. 1996).

Hydrologic Gradient from groundwater elevations recorded on December 12, 2012.

Average linear velocity rate (Q) is defined by modified Darcy's equation:

where

$$Q = \frac{K}{n_e} \cdot \frac{dh}{dl}$$

K = hydraulic conductivity

n_e = effective porosity

dh = head difference

dl = horizontal distance

Appendix A
Laboratory Analysis Reports
Chains of Custody
Field Data Reports

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

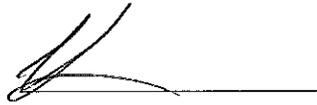
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6025

HERTFORD COUNTY LANDFILL
C/O MUNICIPAL ENGINEERS
P.O. BOX 97
GARNER, NC 27529

DATE COLLECTED: 12/12/12
DATE REPORTED : 01/10/13

REVIEWED BY: 

PARAMETERS	MDL	MW-A SWSL	MW-B	MW-C	MW-D	MW-E	Analysis		Method
							Date	Analyst	
PH (field measurement), Units			6.0	6.1	5.1	5.7	5.9	12/12/12RJH	4500HB-00
Antimony, ug/l	0.02	6.0	--- U	12/17/12LFJ	EPA200.8				
Arsenic, ug/l	0.13	10.0	4.8 J	8 J	--- U	1.8 J	4.1 J	12/17/12LFJ	EPA200.8
Barium, ug/l	0.07	100.0	131	178	77.8 J	113	109	12/17/12LFJ	EPA200.8
Beryllium, ug/l	0.07	1.0	--- U	0.09 J	1	0.09 J	--- U	12/17/12LFJ	EPA200.8
Cadmium, ug/l	0.03	1.0	0.14 J	0.04 J	0.10 J	0.10 J	--- U	12/17/12LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	200	276	8.1 J	54	38	12/17/12LFJ	EPA200.8
Copper, ug/l	0.06	10.0	0.93 J	0.50 J	1.2 J	1.5 J	0.51 J	12/17/12LFJ	EPA200.8
Total Chromium, ug/l	0.18	10.0	--- U	--- U	--- U	0.43 J	--- U	12/17/12LFJ	EPA200.8
Lead, ug/l	0.08	10.0	0.25 J	0.17 J	0.28 J	0.33 J	0.09 J	12/17/12LFJ	EPA200.8
Mercury, ug/l	0.02	0.20	0.03 J	--- U	--- U	--- U	--- U	12/17/12LFJ	EPA200.8
Nickel, ug/l	0.06	50.0	5.4 J	16.6 J	6.6 J	7.1 J	2.0 J	12/17/12LFJ	EPA200.8
Selenium, ug/l	0.17	10.0	0.24 J	--- U	0.40 J	0.46 J	--- U	12/17/12LFJ	EPA200.8
Silver, ug/l	0.10	10.0	--- U	12/17/12LFJ	EPA200.8				
Thallium, ug/l	0.07	5.5	0.25 J	--- U	--- U	--- U	--- U	12/17/12LFJ	EPA200.8
Vanadium, ug/l	0.10	25.0	0.88 J	1.7 J	1.1 J	1.7 J	0.59 J	12/17/12LFJ	EPA200.8
Zinc, ug/l	0.48	10.0	14	6.5 J	56	77	7.5 J	12/17/12LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	515	416	75	358	468	12/12/12RJH	2510B-97
Temperature, °C			17	16	16	15	18	12/12/12RJH	2550B-00
Static Water Level, feet			26.37	25.23	21.03	28.03	27.54	12/12/12RJH	
Well Depth, feet			30.41	28.85	25.20	35.49	35.39	12/12/12RJH	

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6025

HERTFORD COUNTY LANDFILL
C/O MUNICIPAL ENGINEERS
P.O. BOX 97
GARNER , NC 27529

DATE COLLECTED: 12/12/12
DATE REPORTED : 01/10/13

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-F	MW-G	MW-H	MW-I	MW-J	Analysis	Method
								Date	Analyst
PH (field measurement), Units			6.2	6.1	6.3	6.0	5.9	12/12/12RJH	4500HB-00
Antimony, ug/l	0.02	6.0	--- U	--- U	--- U	0.04 J	--- U	12/17/12LFJ	EPA200.8
Arsenic, ug/l	0.13	10.0	4.1 J	1.9 J	1.5 J	5.2 J	0.23 J	12/17/12LFJ	EPA200.8
Barium, ug/l	0.07	100.0	470	120	189	231	72.8 J	12/17/12LFJ	EPA200.8
Beryllium, ug/l	0.07	1.0	0.38 J	0.09 J	0.08 J	1	0.10 J	12/17/12LFJ	EPA200.8
Cadmium, ug/l	0.03	1.0	0.27 J	0.04 J	0.04 J	9	0.18 J	12/17/12LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	174	19	210	52	6.9 J	12/17/12LFJ	EPA200.8
Copper, ug/l	0.06	10.0	1.8 J	0.37 J	0.36 J	6.1 J	0.13 J	12/17/12LFJ	EPA200.8
Total Chromium, ug/l	0.18	10.0	1.2 J	--- U	--- U	11	0.32 J	12/17/12LFJ	EPA200.8
Lead, ug/l	0.08	10.0	1.3 J	0.22 J	--- U	10	0.17 J	12/17/12LFJ	EPA200.8
Mercury, ug/l	0.02	0.20	0.11 J	--- U	--- U		0.05 J	12/17/12LFJ	EPA200.8
Mercury, ug/l	0.02	0.20				6.9		01/09/13ADD	245.1 R3-94
Nickel, ug/l	0.06	50.0	10.9 J	8.8 J	93	8.9 J	4.5 J	12/17/12LFJ	EPA200.8
Selenium, ug/l	0.17	10.0	0.72 J	0.39 J	--- U	2.4 J	--- U	12/17/12LFJ	EPA200.8
Silver, ug/l	0.10	10.0	--- U	12/17/12LFJ	EPA200.8				
Thallium, ug/l	0.07	5.5	0.22 J	--- U	10	0.28 J	--- U	12/17/12LFJ	EPA200.8
Vanadium, ug/l	0.10	25.0	3.4 J	1.1 J	0.49 J	16.0 J	1.4 J	12/17/12LFJ	EPA200.8
Zinc, ug/l	0.48	10.0	48	39	73	801	12	12/17/12LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	868	301	350	541	209	12/12/12RJH	2510B-97
Temperature, °C			18	16	16	15	15	12/12/12RJH	2550B-00
Static Water Level, feet			31.10	25.32	27.81	30.24	27.87	12/12/12RJH	
Well Depth, feet			35.28	39.65	37.11	36.47	38.45	12/12/12RJH	

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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ID#: 6025

HERTFORD COUNTY LANDFILL
C/O MUNICIPAL ENGINEERS
P.O. BOX 97
GARNER, NC 27529

DATE COLLECTED: 12/12/12
DATE REPORTED : 01/10/13

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-K	MW-L	MW-M	Equipment	Trip	Analysis	Method
						Blank	Blank	Date Analyst	Code
PH (field measurement), Units			6.1	5.8	5.7			12/12/12RJK	4500HB-00
Antimony, ug/l	0.02	6.0	---	U	---	U	---	U	12/17/12LFJ EPA200.8
Arsenic, ug/l	0.13	10.0	0.20 J	1.0 J	0.18 J	0.28 J			12/17/12LFJ EPA200.8
Barium, ug/l	0.07	100.0	54.3 J	110	47.4 J	25.5 J			12/17/12LFJ EPA200.8
Beryllium, ug/l	0.07	1.0	---	U	0.14 J	0.13 J	---	U	12/17/12LFJ EPA200.8
Cadmium, ug/l	0.03	1.0	0.05 J	0.06 J	---	U	---	U	12/17/12LFJ EPA200.8
Cobalt, ug/l	0.02	10.0	0.24 J	120	1.8 J	0.04 J			12/17/12LFJ EPA200.8
Copper, ug/l	0.06	10.0	0.59 J	0.37 J	0.16 J	0.81 J			12/17/12LFJ EPA200.8
Total Chromium, ug/l	0.18	10.0	3.2 J	---	U	0.37 J	---	U	12/17/12LFJ EPA200.8
Lead, ug/l	0.08	10.0	0.24 J	0.19 J	---	U	---	U	12/17/12LFJ EPA200.8
Mercury, ug/l	0.02	0.20	0.05 J	0.02 J	0.04 J	---	U	---	U
Nickel, ug/l	0.06	50.0	3.9 J	10.4 J	1.3 J	0.70 J			12/17/12LFJ EPA200.8
Selenium, ug/l	0.17	10.0	---	U	---	U	---	U	12/17/12LFJ EPA200.8
Silver, ug/l	0.10	10.0	---	U	---	U	0.14 J		12/17/12LFJ EPA200.8
Thallium, ug/l	0.07	5.5	---	U	---	U	---	U	12/17/12LFJ EPA200.8
Vanadium, ug/l	0.10	25.0	2.1 J	0.75 J	0.59 J	1.0 J			12/17/12LFJ EPA200.8
Zinc, ug/l	0.48	10.0	11	15	4.1 J	11			12/17/12LFJ EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	165	257	90				12/12/12RJK 2510B-97
Temperature, °C			15	16	17				12/12/12RJK 2550B-00
Static Water Level, feet			29.31	25.19	23.21				12/12/12RJK
Well Depth, feet			42.92	35.19	38.38				12/12/12RJK

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
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CLIENT: HERTFORD COUNTY LANDFILL
C/O MUNICIPAL ENGINEERS
P.O. BOX 97
GARNER, NC 27529

CLIENT ID: 6025
ANALYST: MAO
DATE COLLECTED: 12/12/12
DATE REPORTED: 01/10/13

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1 (96)

PARAMETERS, ug/l	Date Analyzed:		12/14/13	12/14/13	12/14/13	12/14/13	12/14/13			
	MDL	SWSL	MW-A	MW-B	MW-C	MW-D	MW-E			
1. Chloromethane	0.77	1.0	---	U	---	U	---	U		
2. Vinyl Chloride	0.63	1.0	---	U	3.00	---	U	0.80 J		
3. Bromomethane	0.67	10.0	---	U	---	U	---	U		
4. Chloroethane	0.48	10.0	---	U	---	U	---	U		
5. Trichlorofluoromethane	0.24	1.0	---	U	---	U	---	U		
6. 1,1-Dichloroethene	0.17	5.0	---	U	---	U	---	U		
7. Acetone	9.06	100.0	---	U	---	U	---	U		
8. Iodomethane	0.26	10.0	---	U	---	U	---	U		
9. Carbon Disulfide	0.23	100.0	---	U	---	U	---	U		
10. Methylene Chloride	0.64	1.0	---	U	---	U	---	U		
11. trans-1,2-Dichloroethene	0.23	5.0	---	U	0.30 J	---	U	---	U	
12. 1,1-Dichloroethane	0.20	5.0	0.50 J	---	1.70 J	---	U	0.30 J	0.50 J	
13. Vinyl Acetate	0.20	50.0	---	U	---	U	---	U		
14. Cis-1,2-Dichloroethene	0.25	5.0	0.60 J	---	20.30	---	U	1.80 J	---	U
15. 2-Butanone	2.21	100.0	---	U	---	U	---	U		
16. Bromochloromethane	0.27	3.0	---	U	---	U	---	U		
17. Chloroform	0.25	5.0	---	U	---	U	---	U		
18. 1,1,1-Trichloroethane	0.19	1.0	---	U	---	U	---	U		
19. Carbon Tetrachloride	0.22	1.0	---	U	---	U	---	U		
20. Benzene	0.24	1.0	1.30	---	0.90 J	---	U	0.60 J	2.10	
21. 1,2-Dichloroethane	0.27	1.0	---	U	---	U	---	U		
22. Trichloroethene	0.23	1.0	---	U	2.20	---	U	---	U	
23. 1,2-Dichloropropane	0.21	1.0	---	U	---	U	---	U		
24. Bromodichloromethane	0.21	1.0	---	U	---	U	---	U		
25. Cis-1,3-Dichloropropene	0.24	1.0	---	U	---	U	---	U		
26. 4-Methyl-2-Pentanone	1.19	100.0	---	U	---	U	---	U		
27. Toluene	0.23	1.0	---	U	---	U	---	U		
28. trans-1,3-Dichloropropene	0.28	1.0	---	U	---	U	---	U		
29. 1,1,2-Trichloroethane	0.25	1.0	---	U	---	U	---	U		
30. Tetrachloroethene	0.17	1.0	---	U	---	U	0.20 J	---	U	
31. 2-Hexanone	1.57	50.0	---	U	---	U	---	U		
32. Dibromochloromethane	0.24	3.0	---	U	---	U	---	U		
33. 1,2-Dibromoethane	0.26	1.0	---	U	---	U	---	U		
34. Chlorobenzene	0.30	3.0	4.50	---	2.60 J	---	U	0.90 J	19.90	
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	---	U	---	U	---	U		
36. Ethylbenzene	0.21	1.0	---	U	---	U	---	U		
37. Xylenes	0.68	5.0	---	U	---	U	---	U		
38. Dibromomethane	0.28	10.0	---	U	---	U	---	U		
39. Styrene	0.19	1.0	---	U	---	U	---	U		
40. Bromoform	0.20	3.0	---	U	---	U	---	U		
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	---	U	---	U	---	U		
42. 1,2,3-Trichloropropane	0.43	1.0	---	U	---	U	---	U		
43. 1,4-Dichlorobenzene	0.39	1.0	1.00	---	0.60 J	---	U	0.80 J	5.70	
44. 1,2-Dichlorobenzene	0.32	5.0	---	U	---	U	---	U		
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	---	U	---	U	---	U		
46. Acrylonitrile	2.72	200.0	---	U	---	U	---	U		
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	---	U	---	U	---	U		

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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CLIENT: HERTFORD COUNTY LANDFILL
C/O MUNICIPAL ENGINEERS
P.O. BOX 97
GARNER, NC 27529

CLIENT ID: 6025
ANALYST: MAO
DATE COLLECTED: 12/12/12
DATE REPORTED: 01/10/13

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REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1 (96)

PARAMETERS, ug/l	Date Analyzed:		12/14/13	12/14/13	12/14/13	12/14/13	12/14/13
	MDL	SWSL	MW-F	MW-G	MW-H	MW-I	MW-J
1. Chloromethane	0.77	1.0	---	---	---	---	---
2. Vinyl Chloride	0.63	1.0	14.30	1.30	---	7.30	2.10
3. Bromomethane	0.67	10.0	---	---	---	---	---
4. Chloroethane	0.48	10.0	---	---	---	---	---
5. Trichlorofluoromethane	0.24	1.0	---	---	---	---	---
6. 1,1-Dichloroethene	0.17	5.0	---	---	---	---	---
7. Acetone	9.06	100.0	---	---	---	---	---
8. Iodomethane	0.26	10.0	---	---	---	---	---
9. Carbon Disulfide	0.23	100.0	---	---	---	---	---
10. Methylene Chloride	0.64	1.0	---	---	---	---	---
11. trans-1,2-Dichloroethene	0.23	5.0	0.50 J	---	---	---	---
12. 1,1-Dichloroethane	0.20	5.0	3.40 J	---	---	1.40 J	0.60 J
13. Vinyl Acetate	0.20	50.0	---	---	---	---	---
14. Cis-1,2-Dichloroethene	0.25	5.0	41.00	---	5.00	3.10 J	4.70 J
15. 2-Butanone	2.21	100.0	---	---	---	---	---
16. Bromochloromethane	0.27	3.0	---	---	---	---	---
17. Chloroform	0.25	5.0	---	---	---	---	---
18. 1,1,1-Trichloroethane	0.19	1.0	---	---	---	---	---
19. Carbon Tetrachloride	0.22	1.0	---	---	---	---	---
20. Benzene	0.24	1.0	3.30	---	0.40 J	3.30	0.50 J
21. 1,2-Dichloroethane	0.27	1.0	---	---	---	---	---
22. Trichloroethene	0.23	1.0	1.90	---	---	---	0.60 J
23. 1,2-Dichloropropane	0.21	1.0	---	---	---	---	---
24. Bromodichloromethane	0.21	1.0	---	---	---	---	---
25. Cis-1,3-Dichloropropene	0.24	1.0	---	---	---	---	---
26. 4-Methyl-2-Pentanone	1.19	100.0	---	---	---	---	---
27. Toluene	0.23	1.0	0.50 J	---	---	---	---
28. trans-1,3-Dichloropropene	0.28	1.0	---	---	---	---	---
29. 1,1,2-Trichloroethane	0.25	1.0	---	---	---	---	---
30. Tetrachloroethene	0.17	1.0	0.40 J	---	---	---	1.00
31. 2-Hexanone	1.57	50.0	---	---	---	---	---
32. Dibromochloromethane	0.24	3.0	---	---	---	---	---
33. 1,2-Dibromoethane	0.26	1.0	---	---	---	---	---
34. Chlorobenzene	0.30	3.0	17.60	---	2.90 J	21.00	0.50 J
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	---	---	---	---	---
36. Ethylbenzene	0.21	1.0	---	---	---	---	---
37. Xylenes	0.68	5.0	---	---	---	---	---
38. Dibromomethane	0.28	10.0	---	---	---	---	---
39. Styrene	0.19	1.0	---	---	---	---	---
40. Bromoform	0.20	3.0	---	---	---	---	---
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	---	---	---	---	---
42. 1,2,3-Trichloropropane	0.43	1.0	---	---	---	---	---
43. 1,4-Dichlorobenzene	0.39	1.0	5.10	---	0.80 J	6.20	---
44. 1,2-Dichlorobenzene	0.32	5.0	---	---	---	---	---
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	---	---	---	---	---
46. Acrylonitrile	2.72	200.0	---	---	---	---	---
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	---	---	---	---	---

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

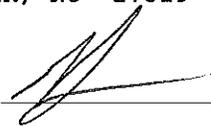
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CLIENT: HERTFORD COUNTY LANDFILL
C/O MUNICIPAL ENGINEERS
P.O. BOX 97
GARNER, NC 27529

CLIENT ID: 6025

ANALYST: MAO
DATE COLLECTED: 12/12/12
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REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1 (96)

PARAMETERS, ug/l	Date Analyzed:		12/14/13	12/14/13	12/14/13	12/19/12	12/14/13
	MDL	SWSL	MW-K	MW-L	MW-M	Equipment Blank	Trip Blank
1. Chloromethane	0.77	1.0	--- U	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	1.80	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	0.40 J	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	3.10 J	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	0.70 J	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	0.30 J	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	0.70 J	0.40 J	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	0.80 J	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Inc.
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CLIENT: 6025 Week: 52

HERTFORD COUNTY LANDFILL
 C/O MUNICIPAL ENGINEERS
 P.O. BOX 97
 GARNER NC 27529

(919) 772-5393

CHAIN OF CUSTODY RECORD

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	DISINFECTION						EPA 8260B	8260 Dup. 1	8260 Dup. 2	PARAMETERS
	DATE	TIME				<input type="checkbox"/> CHLORINE	<input type="checkbox"/> UV	<input type="checkbox"/> NONE	Field pH	Metals	Conductivity				
MW-A	12/12/12	0945			5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A - NONE B - HNO ₃ C - H ₂ SO ₄ D - NaOH E - HCL F - ZINCACETATE G - NA THIOSULFATE
MW-B	12/12/12	1035			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MW-C	12/12/12	0935			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MW-D	12/12/12	1100			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MW-E	12/12/12	1100			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MW-F	12/12/12	0955			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MW-G	12/12/12	1045			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MW-H	12/12/12	1000			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MW-I	12/12/12	1010			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MW-J	12/12/12	1050			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MW-K	12/12/12	1115			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RELINQUISHED BY (SIG.)			DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	COMMENTS:						SAMPLER MUST BE MAINTAINED DURING SHIPMENT/DELIVERY			
RELINQUISHED BY (SIG.)			DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	SAMPLER MUST BE MAINTAINED DURING SHIPMENT/DELIVERY						SAMPLER MUST BE MAINTAINED DURING SHIPMENT/DELIVERY			
RELINQUISHED BY (SIG.)			DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	SAMPLER MUST BE MAINTAINED DURING SHIPMENT/DELIVERY						SAMPLER MUST BE MAINTAINED DURING SHIPMENT/DELIVERY			

PLEASE READ Instructions for completing this form on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested. No 247075

Environment 1, Inc.
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CLIENT: 6025 Week: 52

HERTFORD COUNTY LANDELL
 C/O MUNICIPAL ENGINEERS
 P.O. BOX 97
 GARNER NC 27529

(919) 772-5393

CHAIN OF CUSTODY RECORD

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	DISINFECTION			Field pH	Metals	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2	PARAMETERS	CLASSIFICATION:
	DATE	TIME				<input type="checkbox"/> CHLORINE	<input type="checkbox"/> UV	<input type="checkbox"/> NONE										
MW-L	12/12/12	1105		16	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A					A - NONE	D - NAOH
MW-M	12/12/12	0930		17	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P					B - HNO ₃	E - HCL
Equipment Blank					3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A					C - H ₂ SO ₄	F - ZINCACETATE
Trip Blank					2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A					G - NA THIOSULFATE	
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	COMMENTS:	SAMPLES COLLECTED BY: (Please Print)
<i>[Signature]</i>	12/12/12	<i>[Signature]</i>	12/12/12	<i>[Signature]</i>	12/12/12	<i>[Signature]</i>	12/12/12	<i>[Signature]</i>	12/12/12	<i>[Signature]</i>	12/12/12	<i>[Signature]</i>	12/12/12	<i>[Signature]</i>	12/12/12	<i>[Signature]</i>		<i>[Signature]</i>
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	COMMENTS:	SAMPLES RECEIVED IN LAB AT
																		02°C

PLEASE READ Instructions for completing this form on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested. No 277075

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY

WASTEWATER (NPDES)

DRINKING WATER

DMO/GW

SOLID WASTE SECTION

SAMPLES COLLECTED BY: *[Signature]*

SAMPLES RECEIVED IN LAB AT: *[Signature]*

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

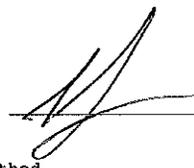
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6025 A

HERTFORD COUNTY LANDFILL
C/O MUNICIPAL ENGINEERS
P.O. BOX 97
GARNER ,NC 27529

DATE COLLECTED: 12/12/12
DATE REPORTED : 01/07/13

REVIEWED BY: 

PARAMETERS	MDL	SW-1 SWSL	SW-2	SW-4	Analysis		Method
					Date	Analyst	
PH (field measurement), Units			6.5	6.3	6.9	12/12/12RJH	4500HB-00
Antimony, ug/l	0.02	6.0	--- U	--- U	--- U	12/17/12LFFJ	EPA200.8
Arsenic, ug/l	0.13	10.0	1.2 J	1.3 J	0.22 J	12/17/12LFFJ	EPA200.8
Barium, ug/l	0.07	100.0	60.0 J	49.2 J	95.6 J	12/17/12LFFJ	EPA200.8
Beryllium, ug/l	0.07	1.0	0.08 J	--- U	--- U	12/17/12LFFJ	EPA200.8
Cadmium, ug/l	0.03	1.0	--- U	0.05 J	--- U	12/17/12LFFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	15	5.6 J	3.3 J	12/17/12LFFJ	EPA200.8
Copper, ug/l	0.06	10.0	1.1 J	1.0 J	0.47 J	12/17/12LFFJ	EPA200.8
Total Chromium, ug/l	0.18	10.0	0.99 J	0.38 J	--- U	12/17/12LFFJ	EPA200.8
Lead, ug/l	0.08	10.0	1.5 J	0.43 J	--- U	12/17/12LFFJ	EPA200.8
Nickel, ug/l	0.06	50.0	1.9 J	1.9 J	1.2 J	12/17/12LFFJ	EPA200.8
Selenium, ug/l	0.17	10.0	--- U	--- U	0.34 J	12/17/12LFFJ	EPA200.8
Silver, ug/l	0.10	10.0	--- U	--- U	--- U	12/17/12LFFJ	EPA200.8
Thallium, ug/l	0.07	5.5	--- U	--- U	--- U	12/17/12LFFJ	EPA200.8
Vanadium, ug/l	0.10	25.0	3.6 J	2.7 J	0.63 J	12/17/12LFFJ	EPA200.8
Zinc, ug/l	0.48	10.0	5.3 J	14	6.5 J	12/17/12LFFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	93	129	249	12/12/12RJH	2510B-97
Temperature, °C			11	12	11	12/12/12RJH	2550B-00

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

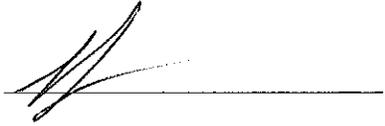
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CLIENT: HERTFORD COUNTY LANDFILL
C/O MUNICIPAL ENGINEERS
P.O. BOX 97
GARNER, NC 27529

CLIENT ID: 6025 A

ANALYST: MAO
DATE COLLECTED: 12/12/12
DATE ANALYZED: 12/19/12
DATE REPORTED: 01/07/13

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	SW-1	SW-2	SW-4
1. Chloromethane	0.77	1.0	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	1.60	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

