
Groundwater Sampling Report and Statistical Analysis

Prepared for

Lenoir County Subtitle D Lined MSWLF
LaGrange, North Carolina

July 2009

Permit Number: 54-09

MESCO Project Number: G09029.0

Completed on November 5, 2009



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

NC DENR

Environmental Monitoring Reporting Form

Division of Waste Management - Solid Waste

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)
Lenoir County Subtitle D Lined MSWLF, Phase 1	2949 Hodges Farm Road LaGrange, NC 28501	54-09	.1600	July 30, 2009

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.

Jonathan Pfohl

Environmental Specialist

(919) 772-5393

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Affix NC Licensed/ Professional Geologist Seal

Signature

Date

11/5/09

P.O. BOX 97, Garner, NC 27529

Facility Representative Address

C-0281

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

**Municipal
Services****Engineering
Company, P.A.**

November 5, 2009

Ms. Jaclyne Drummond
Solid Waste Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
401 Oberlin Road, Suite 150
Raleigh, NC 27605

Re: Groundwater Sampling and Statistical Analysis
Lenoir County Subtitle D Lined Landfill, Phase 1
Permit No. 54-09
MESCO Project No. G09029.0

Dear Ms. Drummond:

Introduction

The Lenoir County Subtitle D lined MSWLF located near LaGrange NC, currently operating under permit #54-09 is required to submit semi-annual detection monitoring and statistical analysis compliance reports as a condition of 15A NCAC 13B.1630. This sampling event was conducted on July 2009 and performed in accordance to the semi-annual monitoring schedule prescribed by the NC Solid Waste Section rules/regulations.

The current site-specific *Sampling and Analysis Plan* (SAP) consists of collecting water samples from six groundwater well locations, one surface water point, and the leachate lagoon invert. This report includes a summary of sampling procedures, field and laboratory results, statistical analysis, tables and graphs of current/historical data, a single-day potentiometric map with flow directions/rates, and the laboratory analytical report.

Sampling Procedure

Environment 1, Inc. (E1) of Greenville, NC collected and performed laboratory analysis on water samples from six downgradient groundwater monitoring wells (MW-14 through MW-18) and one background well (MW-13) on July 30, 2009. The leachate lagoon (LAGOON) was sampled on July 8, 2009. Surface water monitoring location SW-3 was reported to be dry therefore not sampled. All monitoring locations are shown upon the enclosed potentiometric map.

All sampling was reported to be conducted utilizing methodology outlined in the NCDENR *Solid Waste Section Guidelines for Groundwater, Soil, and Surface Water Sampling* revised April 2008. Static water levels in each well were measured electronically prior to purging. Additional static water level readings were also recorded from five additional piezometers in an effort to improve coverage for potentiometric map formulation. All of the collected samples were transported under proper chain-of-custody (C-O-C) protocol and analyzed within the specified hold times for each method. The required field parameters (pH, specific conductance, and temperature) were reported by E1.

Field and Laboratory Results

All of the groundwater monitoring wells contained in SAP were reportedly sampled and analyzed for the 40 CFR Part 258, Appendix I list of volatile organic compounds (VOCs) and total metals per EPA Test Method 8260B and EPA Test Method 200.8, respectively. The lined leachate lagoon (LAGOON) was sampled and analyzed for leachate specific parameters. Quality control measures were also implemented during this event which included submittal and subsequent quantification of a travel blank (TB) and equipment blank (EB).

The field parameters are included in the laboratory analysis report and the data appears to be generally consistent relative to each other and congruent with data historically reported. All water samples were analyzed utilizing the Method Detection Limits (MDL) with reference to the Solid Waste Section detection limits (SWSL) values current as of the sampling event. All detected constituents were compared to the North Carolina Groundwater Standards (2L Standards) or Groundwater Protection Standards (GWP) where a 2L Standard has not been established. The results are presented in the enclosed tables titled "Detection Scan".

No constituents in concentrations in exceedance of the 2L Standard were detected in any monitoring location during this event.

Statistical Analysis

MESCO personnel performed the statistical analysis as required by the Solid Waste Section upon all of the monitoring well samples surrounding the lined landfill. The purpose of these analyses was to determine, in comparison to background levels, statistical significance of the few constituents detected during the July 2009 event.

Historical data compiled for monitoring well MW-13 was used as the baseline. Data distributions were reviewed using time series and box and whiskers plots (enclosed charts). In order to evaluate variability in concentrations with respect to time and season, time series plots were generated for all of the analytes previously detected above the 2L. Time series plots were also visually evaluated for seasonality and "outliers" (defined as data that appears to be incongruent with respect to historical results). There appears to be no apparent outliers nor seasonality in the latest data record.

Interwell Analyses (Metals)

MESCO conducted an interwell statistical analysis on all of the detected metals. Monitoring well MW-13 was defined as the background well, and an upper tolerance limit (UTL) with 95% coverage was computed for each detected constituent from the background data at a 95% level of confidence. For each tested constituent, an appropriate statistical analysis method was selected based on the percentages of non-detects (%ND) in the historical background data.

Other than the background well quantifiable concentrations (>SWSL) of metals were only detected within the sample taken from MW-17. A total of five metals, barium, chromium, lead, vanadium, and zinc cadmium and zinc, were tested for statistical significance through interwell analysis and the summary report is enclosed. For all detected parameters the non-parametric tolerance limit with ½ ND substitution of the original data was utilized since the background data was not normally distributed.

None of the metals detected within MW-17 during this event experienced a statistically significant increase per interwell analysis.

Groundwater and Surface Water Characterization

MESCO prepared the enclosed potentiometric map from groundwater elevation data reported by E1 during this event. Groundwater linear velocity rates and directions were also calculated based upon this data and are included in the attached table. The linear velocity rates ranged from approximately 5 ft./yr. (MW-13) to 398 ft./yr. (MW-14) averaging approximately 128 ft./yr. The flow directions are in a general northeasterly direction which are consistent with historical observations. Surface water SW-3 has reportedly been dry during each event since July 2007.

Conclusion

The results of this monitoring event indicate that the groundwater quality beneath the Lenoir County Subtitle D Lined MSWLF has not been impacted. Detection monitoring will continue and the next semi-annual sampling event is tentatively scheduled for January 2010. Please contact me by phone at (919) 772-5393 or by email at jpfohl@mesco.com if you have any questions or comments.

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

A handwritten signature in blue ink that reads "Jonathan Pfohl". The signature is written in a cursive style with a large initial 'J'.

Jonathan Pfohl
Environmental Specialist

Enclosures

cc: Mr. Tom Miller
Lenoir County

**Detection Scan All Detections above SWSL, GWP, and 2L
Lenoir County Subtitle D Lined MSWLF**

Sample ID	Parameter Name ¹	Sample Date	Result	Unit	MDL ²	SWSL ³	2L ⁴	GWP ⁶	Exceedance	Preliminary Cause
MW-13	Barium	7/30/09	138	ug/l	0.04	100	2000			
MW-13	Lead	7/30/09	3.2	ug/l	0.14	1	15			
MW-13	Vanadium	7/30/09	9.7^j	ug/l	0.28	25.0		3.5	6.2	Natural
MW-17	Barium	7/30/09	148	ug/l	0.04	100	2000			
MW-17	Chromium	7/30/09	13	ug/l	0.14	5	50			
MW-17	Lead	7/30/09	14	ug/l	0.14	1	15			
MW-17	Vanadium	7/30/09	26	ug/l	0.28	25.0		3.5	22.5	Natural
MW-17	Zinc	7/30/09	19	ug/l	0.14	10	1050			

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

² MDL = Method Detection Limit

³ SWSL = Solid Waste Section Reporting Limit (Current as of Sampling Event)

⁴ 2L = North Carolina 15A NCAC 2L Groundwater Quality Standard (Current as of Sampling Event)

^j =The reported value is estimated & between the laboratory MDL & the SWSL, adjusted for actual sample preparation data and moisture content

LFG = Landfill Gas

NE = Not Established

BOLD = Concentration >GWP or 2L Standard (Current as of Sampling Event)

**Detection Scan All Detections Reported by Laboratory
Lenoir County Subtitle D Lined MSWLF**

Sample ID	Parameter Name ¹	Sample Date	Result	Unit	MDL ²	SWSL ³	2L ⁴	GWP ⁶	Exceedance	Preliminary Cause
MW-13	Antimony	7/30/09	0.3	ug/l	0.06	6.0		1.4		
MW-13	Arsenic	7/30/09	1.3	ug/l	0.17	10.0	50			
MW-13	Barium	7/30/09	138	ug/l	0.04	100.0	2000			
MW-13	Beryllium	7/30/09	0.5	ug/l	0.06	1.0		4		
MW-13	Cadmium	7/30/09	0.2	ug/l	0.04	1.0	1.75			
MW-13	Chromium	7/30/09	4.8	ug/l	0.14	5.0	50			
MW-13	Cobalt	7/30/09	1.9	ug/l	0.04	10.0		70		
MW-13	Copper	7/30/09	2.2	ug/l	0.14	3.0	1000			
MW-13	Lead	7/30/09	3.2	ug/l	0.14	1.0	15			
MW-13	Nickel	7/30/09	2.3	ug/l	0.12	10.0	100			
MW-13	Selenium	7/30/09	0.2	ug/l	0.04	10.0	50			
MW-13	Thallium	7/30/09	0.1	ug/l	0.13	1.0		0.28		
MW-13	Vanadium	7/30/09	9.7ⁱ	ug/l	0.28	25.0		3.5	6.2	Natural
MW-13	Zinc	7/30/09	8.8	ug/l	0.14	10.0	1050			
MW-14	2-Butanone	7/30/09	1.6	ug/l	0.85	100.0	4200			
MW-14	Barium	7/30/09	12.7	ug/l	0.04	100.0	2000			
MW-14	Chromium	7/30/09	0.1	ug/l	0.14	5.0	50			
MW-14	Cobalt	7/30/09	0.3	ug/l	0.04	10.0		70		
MW-14	Copper	7/30/09	0.4	ug/l	0.14	3.0	1000			
MW-14	Lead	7/30/09	0.1	ug/l	0.14	1.0	15			
MW-14	Nickel	7/30/09	0.3	ug/l	0.12	10.0	100			
MW-14	Zinc	7/30/09	4	ug/l	0.14	10.0	1050			
MW-15	2-Butanone	7/30/09	1.6	ug/l	0.85	100.0	4200			
MW-15	Arsenic	7/30/09	1.6	ug/l	0.17	10.0	50			
MW-15	Barium	7/30/09	17.1	ug/l	0.04	100.0	2000			
MW-15	Cadmium	7/30/09	0.1	ug/l	0.04	1.0	1.75			
MW-15	Chromium	7/30/09	0.5	ug/l	0.14	5.0	50			
MW-15	Cobalt	7/30/09	0.4	ug/l	0.04	10.0		70		
MW-15	Copper	7/30/09	1	ug/l	0.14	3.0	1000			
MW-15	Lead	7/30/09	0.2	ug/l	0.14	1.0	15			
MW-15	Nickel	7/30/09	0.6	ug/l	0.12	10.0	100			
MW-15	Vanadium	7/30/09	0.5	ug/l	0.28	25.0		3.5		
MW-15	Zinc	7/30/09	1.7	ug/l	0.14	10.0	1050			
MW-16	2-Butanone	7/30/09	2.1	ug/l	0.85	100.0	4200			
MW-16	Barium	7/30/09	13	ug/l	0.04	100.0	2000			
MW-16	Cadmium	7/30/09	0.2	ug/l	0.04	1.0	1.75			
MW-16	Chromium	7/30/09	0.2	ug/l	0.14	5.0	50			
MW-16	Cobalt	7/30/09	0.3	ug/l	0.04	10.0		70		
MW-16	Copper	7/30/09	0.8	ug/l	0.14	3.0	1000			
MW-16	Lead	7/30/09	0.1	ug/l	0.14	1.0	15			
MW-16	Nickel	7/30/09	0.5	ug/l	0.12	10.0	100			
MW-16	Zinc	7/30/09	2.6	ug/l	0.14	10.0	1050			

Sample ID	Parameter Name ¹	Sample Date	Result	Unit	MDL ²	SWSL ³	2L ⁴	GWP ⁶	Exceedance	Preliminary Cause
MW-17	2-Butanone	7/30/09	1.4	ug/l	0.85	100.0	4200			
MW-17	Antimony	7/30/09	0.1	ug/l	0.06	6.0		1.4		
MW-17	Arsenic	7/30/09	7.5	ug/l	0.17	10.0	50			
MW-17	Barium	7/30/09	148	ug/l	0.04	100.0	2000			
MW-17	Beryllium	7/30/09	0.9	ug/l	0.06	1.0		4		
MW-17	Cadmium	7/30/09	0.2	ug/l	0.04	1.0	1.75			
MW-17	Chromium	7/30/09	13	ug/l	0.14	5.0	50			
MW-17	Cobalt	7/30/09	1.8	ug/l	0.04	10.0		70		
MW-17	Copper	7/30/09	2.2	ug/l	0.14	3.0	1000			
MW-17	Lead	7/30/09	14	ug/l	0.14	1.0	15			
MW-17	Nickel	7/30/09	1.7	ug/l	0.12	10.0	100			
MW-17	Selenium	7/30/09	0.8	ug/l	0.04	10.0	50			
MW-17	Thallium	7/30/09	0.1	ug/l	0.13	1.0		0.28		
MW-17	Vanadium	7/30/09	26	ug/l	0.28	25.0		3.5	22.5	Natural
MW-17	Zinc	7/30/09	19	ug/l	0.14	10.0	1050			
MW-18	2-Butanone	7/30/09	2.1	ug/l	0.85	100.0	4200			
MW-18	Acetone	7/30/09	1.5	ug/l	1.21	100.0	700			
MW-18	Arsenic	7/30/09	0.3	ug/l	0.17	10.0	50			
MW-18	Barium	7/30/09	44.1	ug/l	0.04	100.0	2000			
MW-18	Beryllium	7/30/09	0.1	ug/l	0.06	1.0		4		
MW-18	Cadmium	7/30/09	0.1	ug/l	0.04	1.0	1.75			
MW-18	Chromium	7/30/09	0.2	ug/l	0.14	5.0	50			
MW-18	Cobalt	7/30/09	0.5	ug/l	0.04	10.0		70		
MW-18	Copper	7/30/09	1	ug/l	0.14	3.0	1000			
MW-18	Lead	7/30/09	0.7	ug/l	0.14	1.0	15			
MW-18	Nickel	7/30/09	1	ug/l	0.12	10.0	100			
MW-18	Zinc	7/30/09	3.6	ug/l	0.14	10.0	1050			
LAGOON	Chloromethane	7/8/09	1.5	ug/l	0.18	1	2.6			
TB	Chloromethane	7/29/09	0.2	ug/l	0.18	1	2.6			
TB	Trichlorofluoromethane	7/29/09	0.3	ug/l	0.13	1	2100			
EB	Acetone	7/29/09	1.7	ug/l	1.21	100	700			
EB	Arsenic	7/29/09	0.2	ug/l	0.17	10	50			
EB	Barium	7/29/09	0.3	ug/l	0.04	100	2000			
EB	Copper	7/29/09	0.3	ug/l	0.04	10	1000			
EB	Nickel	7/29/09	0.3	ug/l	0.04	50	100			
EB	Zinc	7/29/09	0.9	ug/l	0.14	10	1050			

¹ Table contains all constituents detected above MDL

² MDL = Method Detection Limit

³ SWSL = Solid Waste Section Reporting Limit (Current as of Sampling Event)

⁴ 2L = North Carolina Ground Water 2L Standard (Current as of Sampling Event)

⁶ GWP = Groundwater Protection Standard (Current as of Sampling Event)

[†] =The reported value is estimated & between the laboratory MDL & the SWSL, adjusted for actual sample preparation data and moisture content, where applicable.

LFG = Landfill Gas

NE = Not Established

BOLD = Concentration >GWP, 2L Standard (Current as of Sampling Event)

**Hydrologic Properties at Monitoring Well Locations
Lenoir County Subtitle D Lined MSWLF**

Monitoring Well	Hydraulic Conductivity (cm/sec)	Effective Porosity (%)	Hydraulic Gradient	Groundwater Velocity Rate (ft/yr)	Flow Direction	Water Table Depth (ft)	Water Table Elevation (ft)	Screened Interval Lithology
MW-13	7.69E-05	23%	0.013	5	S83E	27.61	80.20	Silty Sand
MW-14	3.38E-03	23%	0.026	398	N66E	13.53	61.28	Silty Sand
MW-15	2.89E-03	22%	0.015	207	N70E	8.44	63.20	Silty Sand
MW-16	9.72E-04	23%	0.029	125	N89E	9.84	66.52	Silty Sand
MW-17	1.13E-03	23%	0.005	27	N86E	27.17	73.89	Silty Sand
MW-18	1.25E-04	23%	0.015	8	S89E	29.35	77.39	Silty Clayey Sand

- NOTE: 1. Hydraulic conductivity (K), values for all wells based upon slug test results conducted by MESCO in December 2005.
 2. Effective Porosity (ne), values obtained from the MESCO design hydrogeologic report completed in August 2002.
 3. Water levels were measured prior to sampling by Environment 1, Inc. on July 30, 2009.

Linear velocity rate (Q) is defined by the equation:

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

K = hydraulic conductivity

ne = effective porosity

dh = head difference

dl = horizontal distance

Statistical Analysis Results Summary

Inter-Well Analysis Summary
Lenoir County Subtitle D Lined Landfill

Background Well: MW-13

Barium, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
61.54	-	Non-Parametric Tolerance Interval	½ ND	267	ug/L

Well	Result	Significance
MW-17	148	no

Chromium, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
69.23	-	Non-Parametric Tolerance Interval	½ ND	34	ug/L

Well	Result	Significance
MW-17	13	no

Lead, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
61.54	-	Non-Parametric Tolerance Interval	½ ND	44.0	ug/L

Well	Result	Significance
MW-17	14	no

Vanadium

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
76.92	-	Non-Parametric Tolerance Interval	½ ND	69	ug/L

Well	Result	Significance
MW-17	26	no

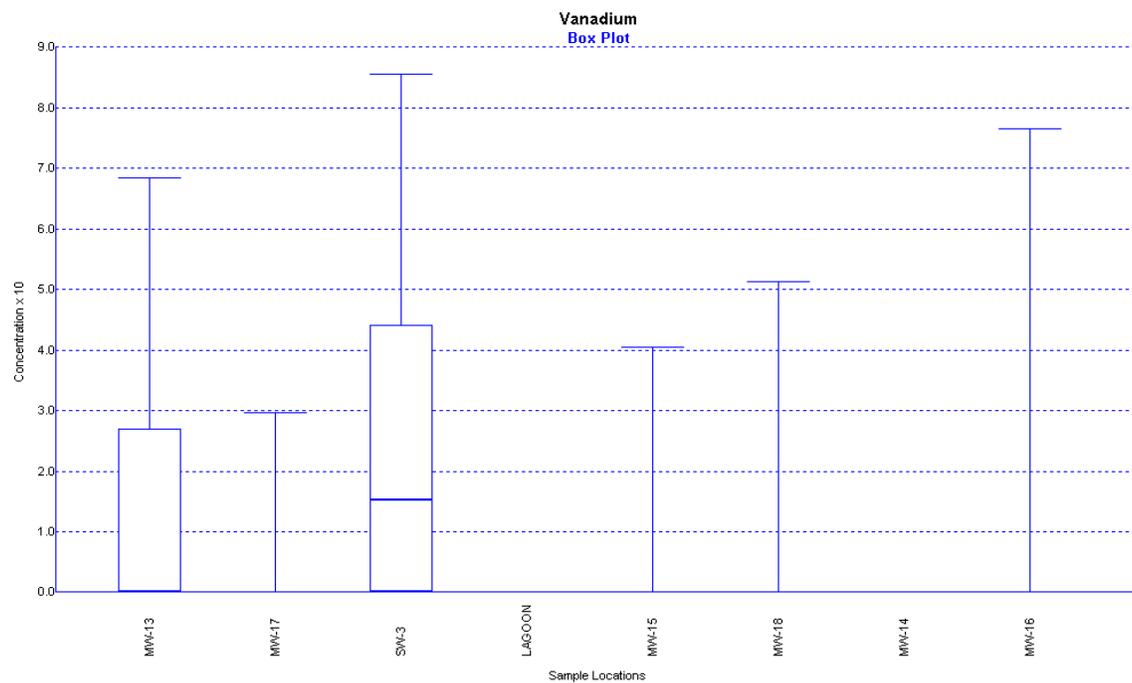
Zinc, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
84.62	-	Non-Parametric Tolerance Interval	½ ND	35	log[ug/l]

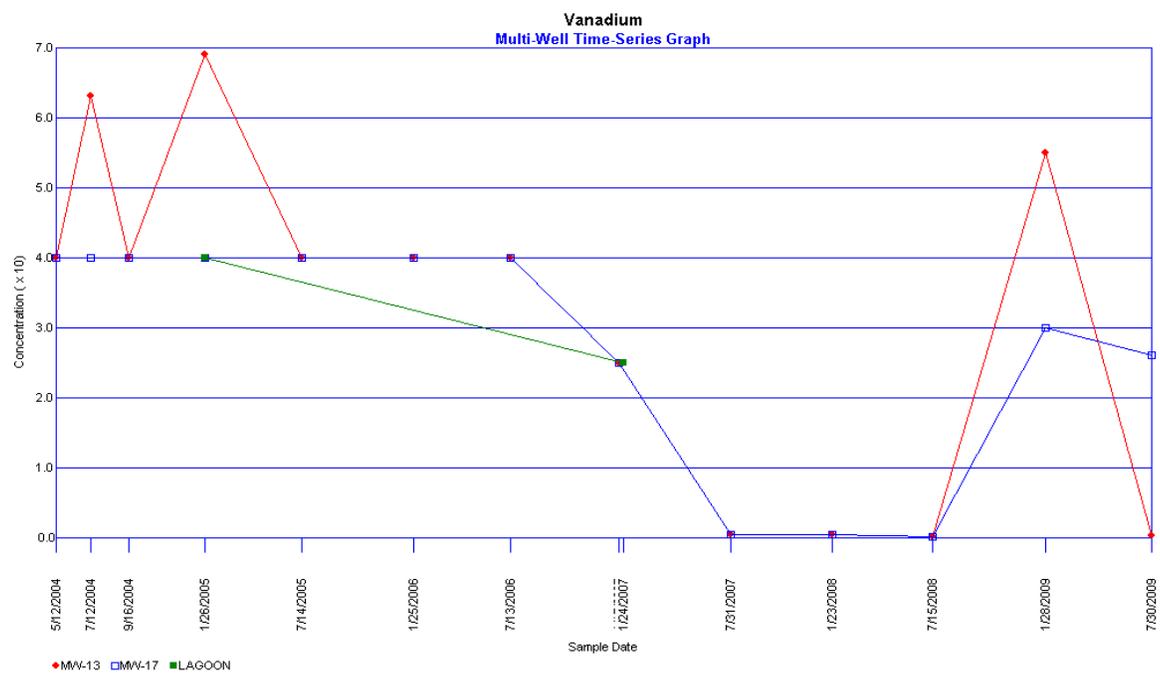
Well	Result	Significance
MW-17	19	no

NOTE: Bold-faced monitoring points indicate detected levels exceed North Carolina Groundwater 2L Standard.

Box Plots for Select Constituents (Metals) Lenoir County Subtitle D Lined Landfill



Time Series Plots for Select Constituents
Lenoir County Subtitle D Lined Landfill
ND Depicted at Detection Limit



**Summary of Pooled VOCs in Background Well (MW-13)
Lenoir County Subtitle D Lined Landfill**

Constituent	Samples	NDs	% NDs
1,1,1,2-Tetrachloroethane	13	13	100.00
1,1,1-Trichloroethane	13	13	100.00
1,1,2,2-Tetrachloroethane	13	13	100.00
1,1,2-Trichloroethane	13	13	100.00
1,1-Dichloroethane	13	13	100.00
1,1-Dichloroethene	13	13	100.00
1,2,3-Trichloropropane	13	13	100.00
1,2-Dibromo-3-chloropropane	13	13	100.00
1,2-Dibromoethane	13	13	100.00
1,2-Dichlorobenzene	13	13	100.00
1,2-Dichloroethane	13	13	100.00
1,2-Dichloropropane	13	13	100.00
1,4-Dichlorobenzene	13	13	100.00
2-Butanone	13	13	100.00
2-Hexanone	13	13	100.00
4-Methyl-2-Pentanone	13	13	100.00
Acetone	13	13	100.00
Acrylonitrile	13	13	100.00
Benzene	13	13	100.00
Bromochloromethane	13	13	100.00
Bromodichloromethane	13	13	100.00
Bromoform	13	13	100.00
Bromomethane	13	13	100.00
Carbon disulfide	13	13	100.00
Carbon tetrachloride	13	13	100.00
Chlorobenzene	13	13	100.00
Chloroethane	13	13	100.00
Chloroform	13	13	100.00
Chloromethane	13	13	100.00
cis-1,2-Dichloroethene	13	13	100.00
cis-1,3-Dichloropropene	13	13	100.00
Chlorodibromomethane	13	13	100.00
Dibromomethane	13	13	100.00
Ethylbenzene	13	13	100.00
Iodomethane	13	13	100.00
Dichloromethane	13	13	100.00
Styrene	13	13	100.00
Tetrachloroethylene	13	13	100.00
Toluene	13	13	100.00
trans-1,2-Dichloroethene	13	13	100.00
trans-1,3-Dichloropropene	13	13	100.00
trans-1,4-Dichloro-2-butene	13	13	100.00
Trichloroethylene	13	13	100.00
Trichlorofluoromethane	13	13	100.00
Vinyl acetate	13	13	100.00
Vinyl chloride	13	13	100.00
Xylene	13	13	100.00
Total	611	611	100.00

**Poisson Prediction Interval Based upon Pooled Background VOCs
Lenoir County Subtitle D Lined Landfill**

All detected VOCs (Background Well: MW-13)

Constituent	None
None	-
Detection(s) per Scan	0.00

"j" Qualifiers treated as ND

Total number of sampling events [n] = 13

Total number of detections in background wells [y] = 0

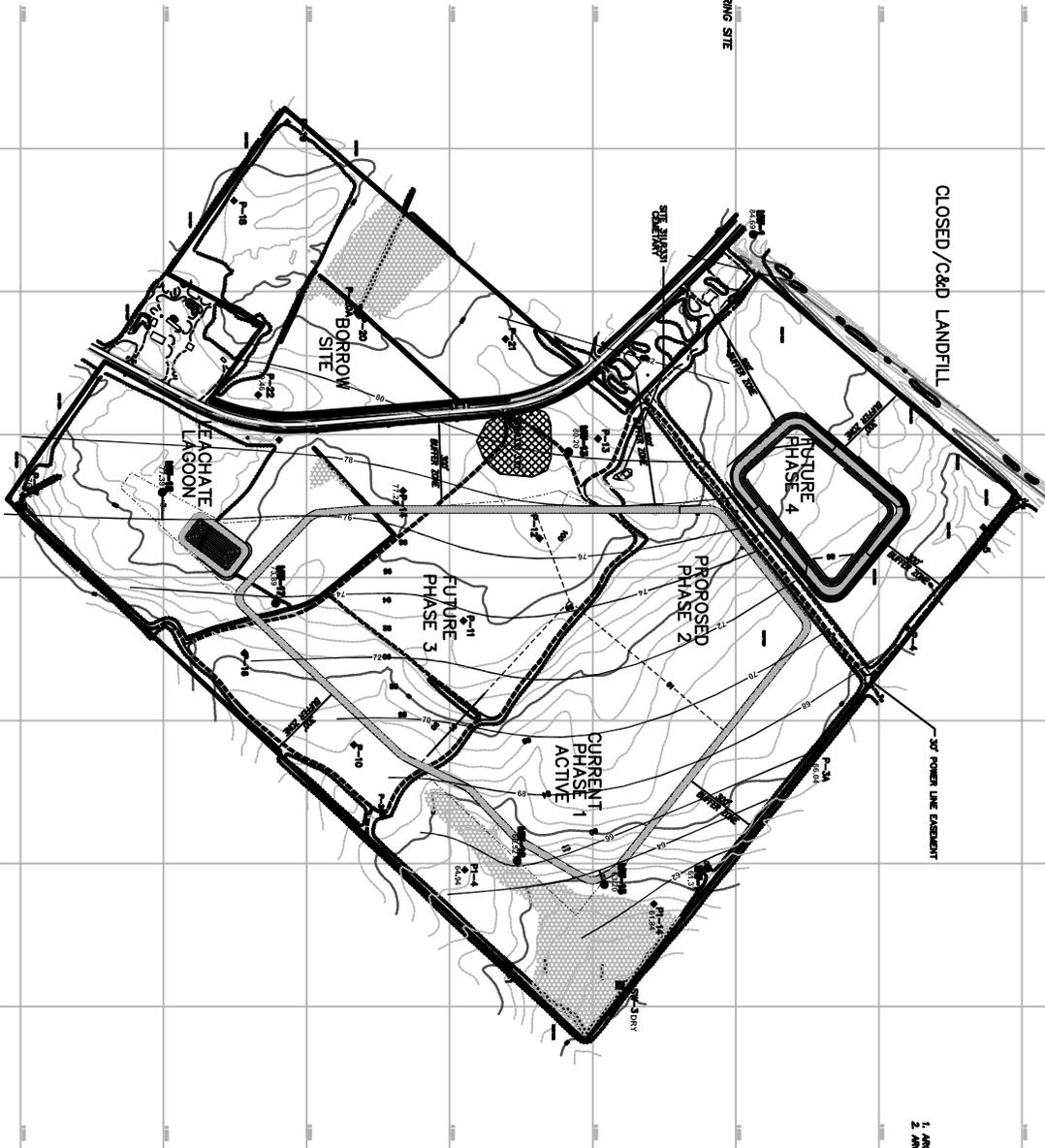
Number of comparisons (downgradient wells) [k] = 5

One-sided value of Student's t-statistic (95% confidence) [t] = 2.68

Expected number of detections in a single future sample [y*] = **0.5535**

NO Statistically Significant VOC Detections at a 95% Confidence Level.

- LEGEND**
- EXISTING CONTOURS
 - PROPOSED BASE GRADE
 - PROPERTY LINE
 - EXISTING PATH
 - BUFFER ZONE
 - PHASES OF OPERATION
 - EXISTING PEZOMETER
 - ARCHAEOLOGICAL SITES
 - WETLANDS
 - MONITORING WELL
 - SURFACE WATER MONITORING SITE



- NOTES**
1. ARCHAEOLOGICAL SITE SURVEY (GENERAL) WILL NOT BE DISTURBED.
 2. ARCHAEOLOGICAL SITE SURVEY WILL BE DISTURBED.



LENOIR COUNTY SUSTITBLE D LINED LANDFILL

WELL #	TOP OF PIPE ELEVATION (FT)	DEPTH TO WATER (FT)	WATER ELEVATION (FT)
VM-13	107.81	27.61	80.20
VM-14	74.81	13.53	61.28
VM-15	71.64	8.44	63.20
VM-16	76.86	9.84	66.92
VM-17	101.06	27.17	73.89
VM-18	106.74	29.35	77.39
VM-19	86.54	13.65	72.89
VM-20	82.17	16.15	66.02
P-1	62.89	17.89	45.00
P-2	104.17	26.84	77.33
P-3	90.57	14.15	76.42
P-22	110.40	30.94	79.46

POTENTIOMETRIC MAP

DATE	BY	DESCRIPTION

SUBTITLE D LINED MSW LANDFILL FACILITY
LENOIR COUNTY
NORTH CAROLINA

Municipal Services  Engineering Company, P.A.

Basic Statistics

Basic Statistics**Parameter: Barium, total**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

	Total Observations
78	
Total Non-Detects	68
Pooled Mean	153.279
Pooled Std Dev	113.97
Background Mean	190.927
Background Std Dev	86.7986

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-13	13	8	61.5385	2482.05

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-13	190.927	86.7986	0	644	49.5385

Compliance Wells

There are 5 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-14	13	13	100	1780.17
MW-16	13	13	100	1780.17
MW-18	13	13	100	1780.17
MW-17	13	8	61.5385	2353.02
MW-15	13	13	100	1780.17

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-14	136.936	127.355	-53.9912	45.2405	448.5	34.5
MW-16	136.936	127.355	-53.9912	45.2405	448.5	34.5
MW-18	136.936	127.355	-53.9912	45.2405	448.5	34.5
MW-17	181.002	86.0856	-9.92577	45.2405	643	49.4615
MW-15	136.936	127.355	-53.9912	45.2405	448.5	34.5

Analysis of Variance Statistics

SS Wells	42305.8
SS Total	1.00016e+006

Kruskal-Wallis Statistics

Non-Detect Rank	34.5
Background Rank Sum	644
Background Rank Mean	49.5385
H Statistic	7.59501
H Adjusted for Ties	22.5072

Basic Statistics**Parameter: Chromium, total**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

	Total Observations
78	
Total Non-Detects	60
Pooled Mean	6.56782
Pooled Std Dev	9.632
Background Mean	9.77654
Background Std Dev	12.8939

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-13	13	9	69.2308	127.095

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-13	9.77654	12.8939	0	565.5	43.5

Compliance Wells

There are 5 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-18	13	10	76.9231	93.05
MW-17	13	9	69.2308	93.795
MW-14	13	12	92.3077	38.95
MW-15	13	10	76.9231	68.35
MW-16	13	10	76.9231	91.05

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-18	7.15769	11.2594	-2.61885	3.81441	516	39.6923
MW-17	7.215	7.06842	-2.56154	3.81441	548.5	42.1923
MW-14	2.99615	2.42547	-6.78038	3.81441	427	32.8462
MW-15	5.25769	7.20631	-4.51885	3.81441	509	39.1538
MW-16	7.00385	12.9087	-2.77269	3.81441	515	39.6154

Analysis of Variance Statistics

SS Wells	334.438
SS Total	7143.7

Kruskal-Wallis Statistics

Non-Detect Rank	30.5
Background Rank Sum	565.5
Background Rank Mean	43.5
H Statistic	1.71373
H Adjusted for Ties	3.14512

Basic Statistics**Parameter: Lead, total**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

	Total Observations
78	
Total Non-Detects	62
Pooled Mean	4.87077
Pooled Std Dev	6.52598
Background Mean	8.25308
Background Std Dev	11.6575

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-13	13	8	61.5385	107.29

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-13	8.25308	11.6575	0	609	46.8462

Compliance Wells

There are 5 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-18	13	10	76.9231	50.81
MW-17	13	11	84.6154	68.09
MW-14	13	12	92.3077	38.21
MW-15	13	10	76.9231	54.31
MW-16	13	11	84.6154	61.21

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-18	3.90846	3.85037	-4.34462	2.55776	520	40
MW-17	5.23769	4.82501	-3.01538	2.55776	496.5	38.1923
MW-14	2.93923	2.44447	-5.31385	2.55776	441	33.9231
MW-15	4.17769	4.53829	-4.07538	2.55776	527	40.5385
MW-16	4.70846	7.38697	-3.54462	2.55776	487.5	37.5

Analysis of Variance Statistics

SS Wells	217.597
SS Total	3279.31

Kruskal-Wallis Statistics

Non-Detect Rank	31.5
Background Rank Sum	609
Background Rank Mean	46.8462
H Statistic	2.33181
H Adjusted for Ties	4.68394

Basic Statistics**Parameter: Vanadium**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

	Total Observations
78	
Total Non-Detects	69
Pooled Mean	16.174
Pooled Std Dev	16.5453
Background Mean	23.0842
Background Std Dev	24.1245

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-13	13	10	76.9231	300.095

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-13	23.0842	24.1245	0	578	44.4615

Compliance Wells

There are 5 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-15	13	12	92.3077	174.13
MW-18	13	11	84.6154	215.13
MW-14	13	13	100	153.13
MW-17	13	11	84.6154	208.955
MW-16	13	12	92.3077	210.13

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-15	13.3946	12.5995	-9.68962	6.55423	492	37.8462
MW-18	16.5485	17.7958	-6.53577	6.55423	532	40.9231
MW-14	11.7792	9.80054	-11.305	6.55423	455	35
MW-17	16.0735	9.88985	-7.01077	6.55423	526	40.4615
MW-16	16.1638	20.593	-6.92038	6.55423	498	38.3077

Analysis of Variance Statistics

SS Wells	974.229
SS Total	21078.5

Kruskal-Wallis Statistics

Non-Detect Rank	35
Background Rank Sum	578
Background Rank Mean	44.4615
H Statistic	1.31578
H Adjusted for Ties	4.27506

Basic Statistics**Parameter: Zinc, total**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

	Total Observations
78	
Total Non-Detects	69
Pooled Mean	19.5212
Pooled Std Dev	29.0461
Background Mean	17.4762
Background Std Dev	12.2427

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-13	13	11	84.6154	227.19

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-13	17.4762	12.2427	0	529	40.6923

Compliance Wells

There are 5 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-14	13	13	100	180.31
MW-17	13	11	84.6154	216.22
MW-15	13	13	100	180.31
MW-18	13	10	76.9231	440.31
MW-16	13	11	84.6154	278.31

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-14	13.87	12.5802	-3.60615	11.4398	455	35
MW-17	16.6323	11.0068	-0.843846	11.4398	529	40.6923
MW-15	13.87	12.5802	-3.60615	11.4398	455	35
MW-18	33.87	61.8632	16.3938	11.4398	576	44.3077
MW-16	21.4085	26.2549	3.93231	11.4398	537	41.3077

Analysis of Variance Statistics

SS Wells	3716.05
SS Total	64963.3

Kruskal-Wallis Statistics

Non-Detect Rank	35
Background Rank Sum	529
Background Rank Mean	40.6923
H Statistic	1.76519
H Adjusted for Ties	5.7352

Interwell Analyses for Metals

Non-Parametric Tolerance Interval**Parameter: Barium, total**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Percent Non-Detects = 61.5385%

Background Samples (n) = 13

Maximum Background Concentration = 267

Minimum Coverage = 79.4%

Average Coverage = 92.8571%

Well	Sample	Result	Impacted
MW-17	5/12/2004	ND<250	FALSE
MW-17	7/12/2004	ND<250	FALSE
MW-17	9/16/2004	ND<250	FALSE
MW-17	1/26/2005	ND<250	FALSE
MW-17	7/14/2005	ND<250	FALSE
MW-17	1/25/2006	ND<250	FALSE
MW-17	7/13/2006	ND<250	FALSE
MW-17	1/17/2007	64	FALSE
MW-17	7/31/2007	ND<0.02	FALSE
MW-17	1/23/2008	123	FALSE
MW-17	7/15/2008	122	FALSE
MW-17	1/28/2009	146	FALSE
MW-17	7/30/2009	148	FALSE

Non-Parametric Tolerance Interval**Parameter: Chromium, total**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Percent Non-Detects = 69.2308%

Background Samples (n) = 13

Maximum Background Concentration = 34

Minimum Coverage = 79.4%

Average Coverage = 92.8571%

Well	Sample	Result	Impacted
MW-17	5/12/2004	ND<5	FALSE
MW-17	7/12/2004	24	FALSE
MW-17	9/16/2004	ND<5	FALSE
MW-17	1/26/2005	13	FALSE
MW-17	7/14/2005	ND<5	FALSE
MW-17	1/25/2006	ND<5	FALSE
MW-17	7/13/2006	ND<5	FALSE
MW-17	1/17/2007	ND<3.5	FALSE
MW-17	7/31/2007	ND<0.12	FALSE
MW-17	1/23/2008	ND<0.12	FALSE
MW-17	7/15/2008	ND<0.055	FALSE
MW-17	1/28/2009	15	FALSE
MW-17	7/30/2009	13	FALSE

Non-Parametric Tolerance Interval**Parameter: Lead, total**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Percent Non-Detects = 73.0769%

Background Samples (n) = 13

Maximum Background Concentration = 44

Minimum Coverage = 79.4%

Average Coverage = 92.8571%

Well	Sample	Result	Impacted
MW-17	5/12/2004	ND<5	FALSE
MW-17	7/12/2004	ND<5	FALSE
MW-17	9/16/2004	ND<5	FALSE
MW-17	1/26/2005	ND<5	FALSE
MW-17	7/14/2005	ND<5	FALSE
MW-17	1/25/2006	ND<5	FALSE
MW-17	7/13/2006	ND<5	FALSE
MW-17	1/17/2007	ND<3	FALSE
MW-17	7/31/2007	ND<0.035	FALSE
MW-17	1/23/2008	ND<0.035	FALSE
MW-17	7/15/2008	ND<0.02	FALSE
MW-17	1/28/2009	16	FALSE
MW-17	7/30/2009	14	FALSE

Non-Parametric Tolerance Interval**Parameter: Vanadium**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Percent Non-Detects = 80.7692%

Background Samples (n) = 13

Maximum Background Concentration = 69

Minimum Coverage = 79.4%

Average Coverage = 92.8571%

Well	Sample	Result	Impacted
MW-17	5/12/2004	ND<20	FALSE
MW-17	7/12/2004	ND<20	FALSE
MW-17	9/16/2004	ND<20	FALSE
MW-17	1/26/2005	ND<20	FALSE
MW-17	7/14/2005	ND<20	FALSE
MW-17	1/25/2006	ND<20	FALSE
MW-17	7/13/2006	ND<20	FALSE
MW-17	1/17/2007	ND<12.5	FALSE
MW-17	7/31/2007	ND<0.21	FALSE
MW-17	1/23/2008	ND<0.21	FALSE
MW-17	7/15/2008	ND<0.035	FALSE
MW-17	1/28/2009	30	FALSE
MW-17	7/30/2009	26	FALSE

Non-Parametric Tolerance Interval**Parameter: Zinc, total**

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Percent Non-Detects = 84.6154%

Background Samples (n) = 13

Maximum Background Concentration = 35

Minimum Coverage = 79.4%

Average Coverage = 92.8571%

Well	Sample	Result	Impacted
MW-17	5/12/2004	ND<25	FALSE
MW-17	7/12/2004	ND<25	FALSE
MW-17	9/16/2004	ND<25	FALSE
MW-17	1/26/2005	ND<25	FALSE
MW-17	7/14/2005	ND<25	FALSE
MW-17	1/25/2006	ND<25	FALSE
MW-17	7/13/2006	ND<25	FALSE
MW-17	1/17/2007	ND<5	FALSE
MW-17	7/31/2007	ND<0.1	FALSE
MW-17	1/23/2008	ND<0.1	FALSE
MW-17	7/15/2008	ND<0.02	FALSE
MW-17	1/28/2009	17	FALSE
MW-17	7/30/2009	19	FALSE

Laboratory Results

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#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

DATE COLLECTED: 07/30/09
DATE REPORTED : 09/08/09

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-13	MW-14	MW-15	MW-16	MW-17	Analysis	Method	
								Date	Analyst	Code
PH (field measurement), Units			3.70	4.31	4.29	4.23	3.75	07/30/09	RJH	SM4500HB
Antimony, ug/l	0.06	6.0	0.3 J	--- U	--- U	--- U	0.1 J	08/04/09	CMF	EPA200.8
Arsenic, ug/l	0.17	10.0	1.3 J	--- U	1.6 J	--- U	7.5 J	08/04/09	CMF	EPA200.8
Barium, ug/l	0.04	100.0	138	12.7 J	17.1 J	13.0 J	148	08/04/09	CMF	EPA200.8
Beryllium, ug/l	0.06	1.0	0.5 J	--- U	--- U	--- U	0.9 J	08/04/09	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0	0.2 J	--- U	0.1 J	0.2 J	0.2 J	08/04/09	CMF	EPA200.8
Cobalt, ug/l	0.02	10.0	1.9 J	0.3 J	0.4 J	0.3 J	1.8 J	08/04/09	CMF	EPA200.8
Copper, ug/l	0.04	10.0	2.2 J	0.4 J	1.0 J	0.8 J	2.2 J	08/04/09	CMF	EPA200.8
Total Chromium, ug/l	0.10	10.0	4.8 J	0.1 J	0.5 J	0.2 J	13	08/04/09	CMF	EPA200.8
Lead, ug/l	0.04	10.0	3.2 J	0.1 J	0.2 J	0.1 J	14	08/04/09	CMF	EPA200.8
Nickel, ug/l	0.04	50.0	2.3 J	0.3 J	0.6 J	0.5 J	1.7 J	08/04/09	CMF	EPA200.8
Selenium, ug/l	0.12	10.0	0.2 J	--- U	--- U	--- U	0.8 J	08/04/09	CMF	EPA200.8
Silver, ug/l	0.04	10.0	--- U	--- U	--- U	--- U	--- U	08/04/09	CMF	EPA200.8
Thallium, ug/l	0.03	5.0	0.1 J	--- U	--- U	--- U	0.1 J	08/04/09	CMF	EPA200.8
Vanadium, ug/l	0.28	25.0	9.7 J	--- U	0.5 J	--- U	26	08/04/09	CMF	EPA200.8
Zinc, ug/l	0.14	10.0	8.8 J	4.0 J	1.7 J	2.6 J	19	08/04/09	CMF	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	195	50.1	245	62	333	07/30/09	RJH	SM2510B
Temperature, °C			18.33	19.33	19.41	21.16	17.52	07/30/09	RJH	SM2550B
Static Water Level, feet			27.61	13.53	8.44	9.84	27.17	07/30/09	RJH	
Well Depth, feet			31.59	23.56	18.26	24.11	30.91	07/30/09	RJH	

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#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 07/30/09
DATE REPORTED : 09/08/09

REVIEWED BY: 

PARAMETERS	MDL	MW-18		Analysis		Method
		SWSL		Date	Analyst	
PH (field measurement), Units			4.10	07/30/09	RJH	SM4500HB
Antimony, ug/l	0.06	6.0	---	08/04/09	CMF	EPA200.8
Arsenic, ug/l	0.17	10.0	0.3 J	08/04/09	CMF	EPA200.8
Barium, ug/l	0.04	100.0	44.1 J	08/04/09	CMF	EPA200.8
Beryllium, ug/l	0.06	1.0	0.1 J	08/04/09	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0	0.1 J	08/04/09	CMF	EPA200.8
Cobalt, ug/l	0.02	10.0	0.5 J	08/04/09	CMF	EPA200.8
Copper, ug/l	0.04	10.0	1.0 J	08/04/09	CMF	EPA200.8
Total Chromium, ug/l	0.10	10.0	0.2 J	08/04/09	CMF	EPA200.8
Lead, ug/l	0.04	10.0	0.7 J	08/04/09	CMF	EPA200.8
Nickel, ug/l	0.04	50.0	1.0 J	08/04/09	CMF	EPA200.8
Selenium, ug/l	0.12	10.0	---	08/04/09	CMF	EPA200.8
Silver, ug/l	0.04	10.0	---	08/04/09	CMF	EPA200.8
Thallium, ug/l	0.03	5.0	---	08/04/09	CMF	EPA200.8
Vanadium, ug/l	0.28	25.0	---	08/04/09	CMF	EPA200.8
Zinc, ug/l	0.14	10.0	3.6 J	08/04/09	CMF	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	88	07/30/09	RJH	SM2510B
Temperature, °C			16.78	07/30/09	RJH	SM2550B
Static Water Level, feet			29.35	07/30/09	RJH	
Well Depth, feet			33.99	07/30/09	RJH	

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
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CLIENT: LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6053
ANALYST: MAO
DATE COLLECTED: 07/30/09
DATE REPORTED: 09/08/09

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed:		08/04/09	08/04/09	08/04/09	08/04/09	08/04/09	
	MDL	SWSL	MW-13	MW-14	MW-15	MW-16	MW-17	
1. Chloromethane	0.18	1.0	---	U	---	U	---	U
2. Vinyl Chloride	0.34	1.0	---	U	---	U	---	U
3. Bromomethane	0.26	10.0	---	U	---	U	---	U
4. Chloroethane	0.29	10.0	---	U	---	U	---	U
5. Trichlorofluoromethane	0.13	1.0	---	U	---	U	---	U
6. 1,1-Dichloroethene	0.14	5.0	---	U	---	U	---	U
7. Acetone	1.21	100.0	---	U	---	U	---	U
8. Iodomethane	0.12	10.0	---	U	---	U	---	U
9. Carbon Disulfide	0.14	100.0	---	U	---	U	---	U
10. Methylene Chloride	0.14	1.0	---	U	---	U	---	U
11. trans-1,2-Dichloroethene	0.13	5.0	---	U	---	U	---	U
12. 1,1-Dichloroethane	0.16	5.0	---	U	---	U	---	U
13. Vinyl Acetate	0.20	50.0	---	U	---	U	---	U
14. Cis-1,2-Dichloroethene	0.14	5.0	---	U	---	U	---	U
15. 2-Butanone	0.85	100.0	---	U	1.60 J	1.60 J	2.10 J	1.40 J
16. Bromochloromethane	0.11	3.0	---	U	---	U	---	U
17. Chloroform	0.13	5.0	---	U	---	U	---	U
18. 1,1,1-Trichloroethane	0.11	1.0	---	U	---	U	---	U
19. Carbon Tetrachloride	0.13	1.0	---	U	---	U	---	U
20. Benzene	0.16	1.0	---	U	---	U	---	U
21. 1,2-Dichloroethane	0.12	1.0	---	U	---	U	---	U
22. Trichloroethene	0.13	1.0	---	U	---	U	---	U
23. 1,2-Dichloropropane	0.17	1.0	---	U	---	U	---	U
24. Bromodichloromethane	0.13	1.0	---	U	---	U	---	U
25. Cis-1,3-Dichloropropene	0.17	1.0	---	U	---	U	---	U
26. 4-Methyl-2-Pentanone	0.68	100.0	---	U	---	U	---	U
27. Toluene	0.13	1.0	---	U	---	U	---	U
28. trans-1,3-Dichloropropene	0.14	1.0	---	U	---	U	---	U
29. 1,1,2-Trichloroethane	0.20	1.0	---	U	---	U	---	U
30. Tetrachloroethene	0.16	1.0	---	U	---	U	---	U
31. 2-Hexanone	1.00	50.0	---	U	---	U	---	U
32. Dibromochloromethane	0.14	3.0	---	U	---	U	---	U
33. 1,2-Dibromoethane	0.13	1.0	---	U	---	U	---	U
34. Chlorobenzene	0.13	3.0	---	U	---	U	---	U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	---	U	---	U	---	U
36. Ethylbenzene	0.16	1.0	---	U	---	U	---	U
37. Xylenes	0.48	5.0	---	U	---	U	---	U
38. Dibromomethane	0.17	10.0	---	U	---	U	---	U
39. Styrene	0.16	1.0	---	U	---	U	---	U
40. Bromoform	0.11	3.0	---	U	---	U	---	U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	---	U	---	U	---	U
42. 1,2,3-Trichloropropane	0.06	1.0	---	U	---	U	---	U
43. 1,4-Dichlorobenzene	0.21	1.0	---	U	---	U	---	U
44. 1,2-Dichlorobenzene	0.13	5.0	---	U	---	U	---	U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	---	U	---	U	---	U
46. Acrylonitrile	1.49	200.0	---	U	---	U	---	U
47. trans-1,4-Dichloro-2-Butene	0.14	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

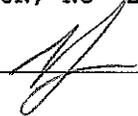
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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

CLIENT: LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6053
ANALYST: MAO
DATE COLLECTED: 07/30/09
DATE REPORTED: 09/08/09

Page: 2

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed:		08/05/09 MW-18
	MDL	SWSL	
1. Chloromethane	0.18	1.0	--- U
2. Vinyl Chloride	0.34	1.0	--- U
3. Bromomethane	0.26	10.0	--- U
4. Chloroethane	0.29	10.0	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U
7. Acetone	1.21	100.0	1.50 J
8. Iodomethane	0.12	10.0	--- U
9. Carbon Disulfide	0.14	100.0	--- U
10. Methylene Chloride	0.14	1.0	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U
13. Vinyl Acetate	0.20	50.0	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U
15. 2-Butanone	0.85	100.0	2.10 J
16. Bromochloromethane	0.11	3.0	--- U
17. Chloroform	0.13	5.0	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U
20. Benzene	0.16	1.0	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U
22. Trichloroethene	0.13	1.0	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U
24. Bromodichloromethane	0.13	1.0	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U
27. Toluene	0.13	1.0	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U
30. Tetrachloroethene	0.16	1.0	--- U
31. 2-Hexanone	1.00	50.0	--- U
32. Dibromochloromethane	0.14	3.0	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U
34. Chlorobenzene	0.13	3.0	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U
36. Ethylbenzene	0.16	1.0	--- U
37. Xylenes	0.48	5.0	--- U
38. Dibromomethane	0.17	10.0	--- U
39. Styrene	0.16	1.0	--- U
40. Bromoform	0.11	3.0	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U
46. Acrylonitrile	1.49	200.0	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U

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

Environment 1, Inc.
 P.O. Box 7085, 114 Oakmont Dr.
 Greenville, NC 27858

CHAIN OF CUSTODY RECORD

Phone (252) 756-6208 • Fax (252) 756-0633

CLIENT: 6053 Week: 29

LENOIR CO. LANDFILL (NEW)
 COUNTY OF LENOIR
 MR. TOM MILLER
 P.O. BOX 756
 KINSTON NC 28502

(252) 566-5408

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/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	CHLORINE NEUTRALIZED AT COLLECTION	pH CHECK (LAB)	CONTAINER TYPE, P/G	CHEMICAL PRESERVATION
	DATE	TIME				<input type="checkbox"/> CHLORINE	<input type="checkbox"/> UV	<input type="checkbox"/> NONE												
SW-3					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
MW-13	07	3009 1012		1835	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
MW-14	07	3009 0925		1933	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
MW-15	07	3609 0935		1941	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
MW-16	07	3009 0945		2116	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
MW-17	07	3009 0955		1752	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
MW-18	07	3009 1205		1678	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Piezometer #22					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Piezometer #14					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Piezometer #1-14					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Piezometer #14					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
RELINQUISHED BY (SIG.)	DATE/TIME	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
Bob Hager	07	3009 1100	KS [Signature]	7/30/10																
RELINQUISHED BY (SIG.)	DATE/TIME	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME

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

FORM #5

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested. No 182025

PARAMETERS

A - NONE D - NaOH
 B - HNO₃ E - HCL
 C - H₂SO₄ F - ZINC ACETATE
 G - NA THIOSULFATE

CLASSIFICATION:

WASTEWATER (NPDES)
 DRINKING WATER
 DMO/GW
 SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY

SAMPLES COLLECTED BY: (Please Print) Hager, K
 SAMPLES RECEIVED IN LAB AT 02

COMMENTS:
 SW 3 R# 22 R 1-14 R 14
 WAS DONE JULY 28 09

Environment 1, Incorporated

Drinking Water ID: 37713
Wastewater ID: 10

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

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

ID#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 07/28/09
DATE REPORTED : 07/30/09

REVIEWED BY: 

PARAMETERS	MDL	Piezometer	Pizeometer	Piezometer	Piezometer	Piezometer	Analysis	Method
		SWSL #22	#1-4	#1-14	#14	#3A	Date Analyst	Code
Static Water Level, feet		30.94	13.86	7.38	26.84	16.15	07/28/09 RJH	

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

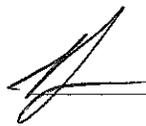
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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

ID#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 07/28/09
DATE REPORTED : 07/30/09

REVIEWED BY: 

PARAMETERS	MDL	Piezometer SWSL #17	Analysis Date	Method Analyst Code
Static Water Level, feet		14.45	07/28/09	RJH

CHAIN OF CUSTODY RECORD

208 • Fax (252) 756-0633

CLIENT: 6053 Week: 29

LENOIR CO. LANDFILL (NEW)
 COUNTY OF LENOIR
 MR. TOM MILLER
 P.O. BOX 756
 KINSTON NC 28502

(252) 566-5408

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/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				CHLORINE	UV	NONE										
SW-3					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A					A - NONE D - NaOH B - HNO ₃ E - HCL C - H ₂ SO ₄ F - ZINC ACETATE G - NA THIOSULFATE	WASTEWATER (NPDES) DRINKING WATER DMO/GW SOLID WASTE SECTION
MW-13					5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-14					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-15					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-16					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-17					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-18					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
Piezometer #22					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
Piezometer #1-4					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
Piezometer #1-14					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
Piezometer #14					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
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.)	DATE/TIME	RECEIVED BY (SIG.)
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.)	DATE/TIME	RECEIVED BY (SIG.)
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.)	DATE/TIME	RECEIVED BY (SIG.)
COMMENTS: W13 - W18 WILL BE DONE SW3 DIRTY SAMPLES COLLECTED BY: <i>H. Page</i> (Please Print) SAMPLES RECEIVED IN LAB AT <i>NIA</i>																		

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 182025

CHAIN OF CUSTODY RECORD

408 • Fax (252) 756-0633

CLIENT: 6053 Week: 29

LENOIR CO. LANDFILL (NEW)
 COUNTY OF LENOIR
 MR. TOM MILLER
 P.O. BOX 756
 KINSTON NC 28502

(252) 566-5408

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/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				CHLORINE	UV	NONE										
SW-3					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A						
MW-13					5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-14					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-15					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-16					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-17					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
MW-18					4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
Piezometer #22					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
Piezometer #1-4					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
Piezometer #1-14					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
Piezometer #14					1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P	P	P	P						
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.)	DATE/TIME	RECEIVED BY (SIG.)
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.)	DATE/TIME	RECEIVED BY (SIG.)
COMMENTS: W13 - W18 WILL BE DONE SW3 DRILL CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY SAMPLES COLLECTED BY: (Please Print) H. J. [Signature] SAMPLES RECEIVED IN LAB AT NHA																		

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 182025

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#: 628

LENOIR CO. LANDFILL (LEACHATE)
MR. TOM MILLER
LENOIR COUNTY LANDFILL
2949 HODGES FARM ROAD
LAGRANGE ,NC 28551

DATE COLLECTED: 07/08/09
DATE REPORTED : 08/11/09

REVIEWED BY: 

PARAMETERS	Leachate	Analysis		Method Code
		Date	Analyst	
PH (not to be used for reporting)	9.1	07/08/09	TRB	SM4500HB
BOD, mg/l	17	07/08/09	TRB	SM5210B
Total Suspended Residue, mg/l	44	07/08/09	MRJ	SM2540D
Ammonia Nitrogen as N, mg/l	0.05	07/09/09	ANO	EPA350.1
Total Kjeldahl Nitrogen as N, mg/l	3.94	07/13/09	ANO	EPA351.2
Total Phosphorus as P, mg/l	0.07	07/13/09	TWA	EPA365.4
Total Cyanide, mg/l	<0.005	07/13/09	SEJ	SM4500 CN-E
Arsenic, ug/l	<5.0	07/15/09	CMF	SM3113B
Cadmium, ug/l	<1.0	07/15/09	CMF	SM3113B
Copper, ug/l	< 10	07/15/09	LFJ	EPA200.7
Total Chromium, ug/l	<5.0	07/15/09	LFJ	EPA200.7
Lead, ug/l	<5.0	07/13/09	CMF	SM3113B
Mercury, ug/l	<0.2	07/16/09	ADD	EPA245.1
Molybdenum, ug/l	< 10	07/15/09	LFJ	EPA200.7
Nickel, ug/l	< 10	07/15/09	LFJ	EPA200.7
Selenium, ug/l	< 10	07/16/09	CMF	SM3113B
Silver, ug/l	<5.0	07/15/09	LFJ	EPA200.7
Zinc, ug/l	< 10	07/13/09	ADD	SM3111B

Environment 1, Incorporated

Drinking Water ID: 37715

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

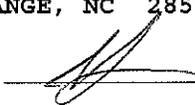
Wastewater ID: 10
PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LENOIR CO. LANDFILL (LEACHATE)
MR. TOM MILLER
LENOIR COUNTY LANDFILL
2949 HODGES FARM ROAD
LAGRANGE, NC 28551

CLIENT ID: 628

ANALYST: CHS
DATE COLLECTED: 07/08/09
DATE EXTRACTED: 07/14/09
DATE ANALYZED: 07/28/09
DATE REPORTED: 08/11/09

Page: 1

REVIEWED BY: 

SEMIVOLATILE ORGANICS EPA METHOD 625

PARAMETERS, ug/l	Leachate
1. N-Nitrosodimethylamine	<10.00
2. Phenol	<10.00
3. Bis(2-Chloroethyl) Ether	<10.00
4. 2-Chlorophenol	<10.00
5. 1,3-Dichlorobenzene	<10.00
6. 1,4-Dichlorobenzene	<10.00
7. 1,2-Dichlorobenzene	<10.00
8. Bis(2-Chloroisopropyl) Ether	<10.00
9. Hexachloroethane	<10.00
10. N-Nitrosodi-N-Propylamine	<10.00
11. Nitrobenzene	<10.00
12. Isophorone	<10.00
13. 2-Nitrophenol	<10.00
14. 2,4-Dimethylphenol	<10.00
15. Bis(2-Chloroethoxy) Methane	<10.00
16. 2,4-Dichlorophenol	<10.00
17. 1,2,4-Trichlorobenzene	<10.00
18. Naphthalene	<10.00
19. Hexachlorobutadiene	<10.00
20. 4-Chloro-3-Methylphenol	<20.00
21. Hexachlorocyclopentadiene	<10.00
22. 2,4,6-Trichlorophenol	<10.00
23. 2-Chloronaphthalene	<10.00
24. Acenaphthylene	<10.00
25. Dimethylphthalate	<10.00
26. 2,6-Dinitrotoulene	<10.00
27. Acenaphthene	<10.00
28. 2,4-Dinitrophenol	<50.00
29. 4-Nitrophenol	<50.00
30. 2,4-Dinitrotoluene	<10.00
31. Fluorene	<10.00
32. Diethylphthalate	<10.00
33. 4-Chlorophenyl Phenyl Ether	<10.00
34. 4,6-Dinitro-2-Methylphenol	<50.00
35. N-Nitrosodiphenylamine	<10.00
36. 4-Bromophenyl Phenyl Ether	<10.00
37. Hexachlorobenzene	<10.00
38. Pentachlorophenol	<50.00
39. Phenanthrene	<10.00
40. Anthracene	<10.00
41. Di-N-Butylphthalate	<10.00
42. Fluoranthene	<10.00
43. Benzidine	<100.00
44. Pyrene	<10.00
45. Butylbenzylphthlate	<10.00
46. Benzo[a]anthracene	<10.00
47. 3,3-Dichlorobenzadine	<10.00
48. Chrysene	<10.00

Environment 1, Incorporated

Drinking Water ID: 37715

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

Wastewater ID: 10
PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LENOIR CO. LANDFILL (LEACHATE)
MR. TOM MILLER
LENOIR COUNTY LANDFILL
2949 HODGES FARM ROAD
LAGRANGE, NC 28551

CLIENT ID: 628

ANALYST: CHS
DATE COLLECTED: 07/08/09
DATE EXTRACTED: 07/14/09
DATE ANALYZED: 07/28/09
DATE REPORTED: 08/11/09

Page: 2

REVIEWED BY: 

SEMIVOLATILE ORGANICS EPA METHOD 625

PARAMETERS, ug/l	Leachate
49. Bis(2-Ethylhexyl)phthalate	< 20.00
50. Di-N-Octylphthalate	< 10.00
51. Benzo[b]fluoranthene	< 10.00
52. Benzo[k]fluoranthene	< 10.00
53. Benzo[a]pyrene	< 10.00
54. Indeno(1,2,3-C,d)pyrene	< 10.00
55. Dibenzo[a,h]anthracene	< 10.00
56. Benzo[g,h,i]perylene	< 10.00
57. 1,2-Diphenylhydrazine	< 10.00

Environment 1, Incorporated

Drinking Water ID: 37715

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

Wastewater ID: 10
PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LENOIR CO. LANDFILL (LEACHATE)
MR. TOM MILLER
LENOIR COUNTY LANDFILL
2949 HODGES FARM ROAD
LAGRANGE, NC 28551

CLIENT ID: 628

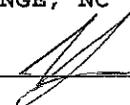
ANALYST: MAO

DATE COLLECTED: 07/08/09

Page: 1

DATE ANALYZED: 07/14/09

DATE REPORTED: 08/11/09

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	Leachate
1. Chloromethane	1.50
2. Vinyl Chloride	<1.00
3. Bromomethane	<10.00
4. Chloroethane	<10.00
5. Trichlorofluoromethane	<1.00
6. 1,1-Dichloroethene	<5.00
7. Acetone	<100.00
8. Iodomethane	<10.00
9. Carbon Disulfide	<100.00
10. Methylene Chloride	<1.00
11. trans-1,2-Dichloroethene	<5.00
12. 1,1-Dichloroethane	<5.00
13. Vinyl Acetate	<50.00
14. Cis-1,2-Dichloroethene	<5.00
15. 2-Butanone	<100.00
16. Bromochloromethane	<3.00
17. Chloroform	<5.00
18. 1,1,1-Trichloroethane	<1.00
19. Carbon Tetrachloride	<1.00
20. Benzene	<1.00
21. 1,2-Dichloroethane	<1.00
22. Trichloroethene	<1.00
23. 1,2-Dichloropropane	<1.00
24. Bromodichloromethane	<1.00
25. Cis-1,3-Dichloropropene	<1.00
26. 4-Methyl-2-Pentanone	<100.00
27. Toluene	<1.00
28. trans-1,3-Dichloropropene	<1.00
29. 1,1,2-Trichloroethane	<1.00
30. Tetrachloroethene	<1.00
31. 2-Hexanone	<50.00
32. Dibromochloromethane	<3.00
33. 1,2-Dibromoethane	<1.00
34. Chlorobenzene	<3.00
35. 1,1,1,2-Tetrachloroethane	<5.00
36. Ethylbenzene	<1.00
37. Xylenes	<5.00
38. Dibromomethane	<10.00
39. Styrene	<1.00
40. Bromoform	<3.00
41. 1,1,2,2-Tetrachloroethane	<3.00
42. 1,2,3-Trichloropropane	<1.00
43. 1,4-Dichlorobenzene	<1.00
44. 1,2-Dichlorobenzene	<5.00
45. 1,2-Dibromo-3-Chloropropane	<13.00
46. Acrylonitrile	<200.00
47. trans-1,4-Dichloro-2-Butene	<100.00