DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

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

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- In accordance with NC General Statutes Chapter 89C and 89E and NC Solid Waste Management Rules 15A NCAC 13B, be sure to affix a seal to the bottom of this page, when applicable.
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

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

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 Closed MSWLF and Active C&D Landfill	2949 Hodges Farm Road LaGrange, NC 28501	54-03	.1600	January 28, 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
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☒ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify)
☐ 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.

Jonathan Pfohl — Facility Representative Name (Print)

Environmental Specialist — Title

(919) 772-5393 — (Area Code) Telephone Number

Signature

5/29/09 — Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:

Revised 01/2007

Semi-Annual Assessment Monitoring and Statistical Analysis Report

Prepared for

Lenoir County Closed MSWLF and Active C&D Landfill
LaGrange, North Carolina

January 2009

Permit Number: 54-03
MESCO Project Number: G08015.0

Completed on May 29, 2009

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

OPERATION/CONSTRUCTION MANAGERS

Municipal Services

CIVIL/SANITARY ENGINEERS

Engineering Company, P.A.

May 29, 2009

Ms. Jaclynne 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 Report and Statistical Analysis
Lenoir County Closed MSWLF and Active C&D Landfill
Permit No.54-03
MESCO Project No. G09015.0

Dear Ms. Drummond:

Introduction

The Lenoir County Closed Unlined MSWLF and Active Construction and Demolition (C&D) Landfill located near LaGrange NC, currently operating under permit #54-03 is required to submit semi-annual compliance reports as a condition of 15A NCAC 13B.1630. This sampling event was conducted on January 28, 2009 and performed according to the semi-annual monitoring schedule prescribed by the NC Solid Waste Section rules/regulations.

The closed MSWLF ceased operation prior to 1998 and the C&D landfill continues operation upon the closed MSWLF. Since they are in essence one contiguous landfill they are combined and treated as a single unit for overall continuity in reporting. The assessment monitoring program consists of seven groundwater and two surface water sampling locations. This report includes a summary of field procedures, laboratory analysis, statistical analysis, tables and graphs of current/historical data, single day potentiometric map with flow directions/rates, and the complete laboratory analytical report.

Sampling Procedure

This sampling event consisted of collection of water samples from all six downgradient groundwater monitoring wells (MW-3, MW-4, MW-6, MW-9, MW-11, MW-12), one background well (MW-1), and both of the surface water sampling locations (SW-1 & SW-2). All monitoring locations are shown upon the enclosed single day potentiometric map. This sampling event was conducted by Environment 1 Inc., (E1) of Greenville, NC.

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. The depth to water in each well was gaged prior to purging to quantify the static water level and utilized for construction of the attached single day potentiometric map. The required field parameters (pH, specific conductance, and temperature) were measured upon sample extraction.

All samples were collected by E1 in laboratory prepared prepreserved containers. All samples were collected and transported to E1 in Greenville NC under proper chain of custody (C-O-C) within the specified hold times for each analysis.

PO Box 97, Garner, North Carolina 27529 (919) 772-5393
PO Box 828, Morehead City, NC 28557 (252) 726-9481 PO Box 349, Boone, North Carolina 28607 (828) 262-1767

Field and Laboratory Results

All of the groundwater monitoring wells contained in the revised SAP (2002) were sampled during this event. All of the groundwater locations were analyzed for the complete Appendix I list of volatile organic compounds (VOCs) and total metals. In addition to the Appendix I list of constituents downgradient MW-3 was also analyzed for the Appendix II VOC's, sulfide, cyanide, pesticides, PCB's, and semi-VOC's since this location has historically been found to contain statistically significant VOC detections. Additional water samples were also obtained from every monitoring well and analyzed for the C&D parameter list as outlined in 15A NCAC 13B.0544 (D) which includes (alkalinity, sulfate, TDS, iron, manganese, chloride, and mercury). The data for all of the C&D parameters are presented in this report but since this specific facility is operating under the .1600 rules and has been in operation prior to promulgation of 15A NCAC 13B .0547 they are exempt from these additional parameters outlined in 15A NCAC 13B .0544. This facility is required to monitor in accordance with .1634-.1637. Quality control measures were also implemented during this event which included submittal and subsequent quantification of a trip (TB) and equipment (EB) blanks.

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 stringent 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 referenced to the Groundwater Protection Standards (GWP) and compared to the North Carolina Groundwater Standards (NCGW2L) or the North Carolina Surface Water Standards (NCSW2B) for regulatory exceedance. The results are shown in the enclosed tables titled "Detection Scan".

Inorganic constituents (total metals) continue to be detected within all of the monitoring locations in concentrations above the SWSL with the exception of downstream SW-1. Five (5) of the eighteen analyzed metals were found in concentrations above the SWSL. The only metals detected in exceedance of the Standard were iron and manganese which are C&D landfill exclusive parameters. Concentrations of Iron within MW-9 and manganese within MW-4, MW-6, and MW-9 were all found outside of their respective historical identified ranges.

The following table summarizes all of the VOC constituents that exceeded the NCGW2L/NCSW2B Standard during this monitoring event.

Table 1. NCGW2L Exceedance Summary (VOCs)

Well	Vinyl Chloride	Cumulative Total
NCGW2L	0.015	-
MW-12	0.6^{j}	0.6^{j}
Total	0.6^{j}	0.6^{j}

Underlined indicatesdetected above own respective historical identified range. "j" <SWSL therefore estimated concentration
All concentration s reported in uq/L

An unquantifiable concentration ("j" qualifier) of vinyl chloride within MW-12 was the only VOC detected in exceedance of the NCGW2L Standard during this sampling event. The concentration of vinyl chloride detected within MW-12 is an estimated value therefore there is uncertainty that the NCGW2L Standard has been exceeded. Downgradient well MW-3 and background well MW-1 were analyzed for the Appendix II list of parameters during this event. The only VOC constituent detected within these locations is the Appendix II constituent acrolein. This is the premier event that acrolein has been detected facility wide and it was found in an estimated unquantifiable concentration. Although acrolein was detected above the GWP Standard it's presence is very likely not attributed to the MSWLF as it was detected in the highest concentration within the background well MW-1. Generally all of the detected VOCs are not grossly elevated, typical of contaminants commonly found in groundwater at MSWLF facilities, the source is likely attributed to leachate and or landfill gas (LFG) that originated from the closed unlined landfill.

MESCO also completed the statistical analysis as required by the Solid Waste Section. The statistical analysis was conducted upon all of the monitoring wells surrounding the closed MSWLF. The purpose of these analyses was to determine, in comparison to background levels, statistical significance of the closed MSWLF parameters (Appendix I) constituents detected during the January 2009 event. Statistical analysis was not conducted for VOCs as none were detected in quantifiable concentrations during this event. The statistical analysis for metals was conducted utilizing Chemstat software which was developed specifically for RCRA Subtitle D sites and conforms to both EPA and SWS protocols.

Interwell Analyses (Metals)

A preliminary data screening was conducted upon the metals detected in all monitoring locations. Parameters with concentrations found below quantifiable levels (SWSL) and below those detected within the background well were eliminated and a statistical analysis was not conducted for that particular constituent/well.

An inter-well statistical analysis was conducted upon metals detected during this sampling event. Since C&D Landfills are not required to complete statistical analysis, this specific facility is exempt from these parameters, and there is very limited historical data iron and manganese were omitted from this analysis. Monitoring well MW-1 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. The following table (Table 3) summarizes the methods used for four different %ND ranges.

Table 3. Statistical Analysis Methods for Various %ND Ranges

%ND	Analysis Method	ND Substitution
%ND<15%	Parametric tolerance limit	1/2 ND
15%<%ND<50%	Parametric tolerance limit	Cohen or 1/2 ND
50%<%ND<90%	Non-parametric tolerance limit	1/2 ND
90%<%ND	Poisson tolerance limit	-

NOTE: For parametric tolerance interval, normality of the background data was checked by the Shapiro-Wilks normality test, as the method requires that the data be normally distributed.

A total of four metals, barium, cobalt, mercury, and zinc, were tested for statistical significance through interwell analysis and the summary table is enclosed. For all detected metals the Poisson Tolerance Limit with no ND substitution was utilized on either the original or log of the original data as these specific metals have rarely or never been detected within the background well.

Intrawell Analyses (Metals)

Intrawell Analyses were conducted only upon those constituents that were initially found to be statistically significant by interwell analysis. In general, intrawell analysis is conducted in order to attempt to differentiate true contamination from spatial variability. Baseline levels in this context are defined as the background level derived from the data in a given downgradient well. Intrawell analyses was completed through formulation of Shewhart-CUSUM control charts and it's alternative exponentially Weighted Moving Average (EWMA) control chart.

Results

Data distributions were reviewed using box and whiskers plots. In order to evaluate variability in concentrations with respect to time and season, time series plots were generated for all of the analytes detected above the NCGW2L. 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 seasonality or outliers found in the latest data record.

The numbers of & types of metal detections continue to be generally congruent with historical results. The interwell analysis at a 95% confidence level indicates that cobalt within MW-9 has increased over background levels during this event. However, according to further intrawell analysis through Shewhart-CUSUM and exponentially Weighted Moving Average (EWMA) control charts cobalt within MW-9 was not found to have increased in concentrations compared to their own historical levels during this event.

Groundwater and Surface Water Characterization

MESCO completed and enclosed the required single day potentiometric map from ground water elevation data obtained by E1 during this event. Groundwater flow rates and directions were also calculated based upon this data and is included in the attached table. The flow rates ranged from approximately 5ft./yr (MW-3) to 24 ft./yr. (MW-4) averaging approximately 15 ft./yr. The flow directions and gradients are consistent with historical observations, showing no changes that would result in a different interpretation of the groundwater system or hinder the effectiveness of the current monitoring network.

Conclusion

The laboratory data and the subsequent statistical analysis results for this event indicate that none of the Appendix I list of metals have been found in exceedance of the NCGW2L/NCSW2B Standard or exhibited a statistically significant increase per intrawell analysis. The closed MSWLF has a cohesive cap to reduce peculation/leachate generation, institutional controls are in place, and there are no known potential receptors within the compliance boundary. Therefore there are no crucial or critical conditions that would warrant emergency measures or actions at this time.

The facility is scheduled to be sampled again in July 2009. The formal report/statistical analysis will be submitted upon completion. Please contact me either by phone at (919) 772-5393, or by email at jpfohl@mesco.com should you have any questions or concerns regarding this report.

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

Jonathan Pfohl
Environmental Specialist

Enclosures
cc: Mr. Tom Miller
Lenoir County

Detection Scan All Detections above SWSL,GWP, NCGW2L, or NCSW2B
Lenoir County Closed MSWLF and Active C&D Landfill

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	NCGW 2L [4]	NCSW 2B [5]	GWP [6]	Exceedance	Preliminary Cause
MW-1	**Acrolein**	**1/28/09**	**7.1[j]**	**ug/l**	**5.46**	**53**			**3.5**	**3.6**	
MW-1	Chloride	1/28/09	24000	ug/l	5000	5000	250000				
MW-1	**Iron**	**1/28/09**	**1216**	**ug/l**	**14.0**	**300**	**300**			**916**	**Natural**
MW-1	Total Dissolved Solids	1/28/09	54000	ug/l	1000	1000	500000				
MW-1	Zinc	1/28/09	11	ug/l	1.86	10	1050				
MW-3	**Acrolein**	**1/28/09**	**5.5[j]**	**ug/l**	**5.46**	**53**			**3.5**	**2**	
MW-3	**Iron**	**1/28/09**	**2038**	**ug/l**	**14.0**	**300**	**300**			**1738**	**Natural**
MW-3	Total Alkalinity	1/28/09	4000	ug/l	1000	1000					
MW-3	Total Dissolved Solids	1/28/09	42000	ug/l	1000	1000	500000				
MW-3	Zinc	1/28/09	62	ug/l	1.86	10	1050				
MW-4	**Iron**	**1/28/09**	**10285**	**ug/l**	**14.0**	**300**	**300**			**9985**	**Natural**
MW-4	**Manganese**	**1/28/09**	**76**	**ug/l**	**0.50**	**50**	**50**			**26**	**Natural**
MW-4	Toluene	1/28/09	4.2	ug/l	0.13	1	1000				
MW-4	Total Alkalinity	1/28/09	2000	ug/l	1000	1000					
MW-4	Total Dissolved Solids	1/28/09	44000	ug/l	1000	1000	500000				
MW-6	**Iron**	**1/28/09**	**1904**	**ug/l**	**14.0**	**300**	**300**			**1604**	**Natural**
MW-6	**Manganese**	**1/28/09**	**125**	**ug/l**	**0.50**	**50**	**50**			**75**	**Natural**
MW-6	Total Dissolved Solids	1/28/09	108000	ug/l	1000	1000	500000				
MW-6	Zinc	1/28/09	509	ug/l	1.86	10	1050				
MW-9	Chloride	1/28/09	9000	ug/l	5000	5000	250000				
MW-9	Cobalt	1/28/09	22	ug/l	2.53	10			10		
MW-9	**Iron**	**1/28/09**	**11410**	**ug/l**	**14.0**	**300**	**300**			**11110**	**Natural**
MW-9	**Manganese**	**1/28/09**	**1763**	**ug/l**	**0.50**	**50**	**50**			**1713**	**Natural**
MW-9	Total Alkalinity	1/28/09	34000	ug/l	1000	1000					
MW-9	Total Dissolved Solids	1/28/09	109000	ug/l	1000	1000	500000				
MW-11	Chloride	1/28/09	18000	ug/l	5000	5000	250000				
MW-11	**Iron**	**1/28/09**	**909**	**ug/l**	**14.0**	**300**	**300**			**609**	**Natural**
MW-11	Total Dissolved Solids	1/28/09	42000	ug/l	1000	1000	500000				
MW-12	Barium	1/28/09	140	ug/l	0.11	100	2000				
MW-12	Chloride	1/28/09	30000	ug/l	5000	5000	250000				
MW-12	**Iron**	**1/28/09**	**488**	**ug/l**	**14.0**	**300**	**300**			**188**	**Natural**
MW-12	Mercury	1/28/09	0.33	ug/l	0.13	0.2	1.1				
MW-12	Total Dissolved Solids	1/28/09	79000	ug/l	1000	1000	500000				
MW-12	**Vinyl Chloride**	**1/28/09**	**0.6[j]**	**ug/l**	**0.34**	**1**	**0.015**			**0.585**	**Leachate &/or LFG**
SW-2	Zinc	1/28/09	15	ug/l	0.04	10		50			

[1] Table only contains detected constituents detected above the SWSL, GWP, NCGW2L or NCSW2B Standards
[2] MDL = Method Detection Limit
[3] SWSL = Solid Waste Section Reporting Limit (Current as of Sampling Event)
[4] NCGW2L = North Carolina Ground Water 2L Standard (Current as of Sampling Event)
[5] NCSW2B = North Carolina Surface Water 2B Standard for Specific Stream Classification (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, where applicable.
LFG = Landfill Gas
NE = Not Established

Detection Scan All Detections Reported by Laboratory
Lenoir County Closed MSWLF and Active C&D Landfill

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	NCGW 2L [4]	NCSW 2B [5]	GWP [6]	Exceedance	Preliminary Cause
MW-1	**Acrolein**	**1/28/09**	**7.1[j]**	**ug/l**	**5.46**	**53**			**3.5**	**3.6**	
MW-1	Antimony	1/28/09	0.3	ug/l	0.08	6			1.4		
MW-1	Barium	1/28/09	19.6	ug/l	0.34	100	2000				
MW-1	Beryllium	1/28/09	0.1	ug/l	0.17	1			4		
MW-1	Chloride	1/28/09	24000	ug/l	5000	5000	250000				
MW-1	Chromium	1/28/09	0.5	ug/l	1.38	10	50				
MW-1	Cobalt	1/28/09	1	ug/l	2.53	10			10		
MW-1	Copper	1/28/09	1.2	ug/l	2.24	10	1000				
MW-1	**Iron**	**1/28/09**	**1216**	**ug/l**	**14.0**	**300**	**300**			**916**	**Natural**
MW-1	Lead	1/28/09	0.6	ug/l	0.04	10	15				
MW-1	Manganese	1/28/09	11	ug/l	0.50	50	50				
MW-1	Mercury	1/28/09	0.05	ug/l	0.13	0.2	1.1				
MW-1	Nickel	1/28/09	1.1	ug/l	1.35	50	100				
MW-1	Sulfate	1/28/09	12500	ug/l	5000	250000	250000				
MW-1	Thallium	1/28/09	0.1	ug/l	0.04	5			5		
MW-1	Total Dissolved Solids	1/28/09	54000	ug/l	1000	1000	500000				
MW-1	Vanadium	1/28/09	0.7	ug/l	1.21	25			3.5		
MW-1	Zinc	1/28/09	11	ug/l	1.86	10	1050				
MW-3	**Acrolein**	**1/28/09**	**5.5[j]**	**ug/l**	**5.46**	**53**			**3.5**	**2**	
MW-3	Antimony	1/28/09	0.1	ug/l	0.08	6			1.4		
MW-3	Arsenic	1/28/09	0.41	ug/l	0.07	10	50				
MW-3	Barium	1/28/09	42.9	ug/l	0.34	100	2000				
MW-3	Chromium	1/28/09	0.9	ug/l	1.38	10	50				
MW-3	Cobalt	1/28/09	0.2	ug/l	2.53	10			10		
MW-3	Copper	1/28/09	4.8	ug/l	2.24	10	1000				
MW-3	**Iron**	**1/28/09**	**2038**	**ug/l**	**14.0**	**300**	**300**			**1738**	**Natural**
MW-3	Lead	1/28/09	0.5	ug/l	0.04	10	15				
MW-3	Manganese	1/28/09	10	ug/l	0.50	50	50				
MW-3	Mercury	1/28/09	0.05	ug/l	0.13	0.2	1.1				
MW-3	Nickel	1/28/09	0.5	ug/l	1.35	50	100				
MW-3	Silver	1/28/09	0.1	ug/l	2.32	10	18				
MW-3	Total Alkalinity	1/28/09	4000	ug/l	1000	1000					
MW-3	Total Dissolved Solids	1/28/09	42000	ug/l	1000	1000	500000				
MW-3	Vanadium	1/28/09	1.5	ug/l	1.21	25			3.5		
MW-3	Zinc	1/28/09	62	ug/l	1.86	10	1050				

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	NCGW 2L [4]	NCSW 2B [5]	GWP [6]	Exceedance	Preliminary Cause
MW-4	Arsenic	1/28/09	2.9	ug/l	0.07	10	50				
MW-4	Barium	1/28/09	24.9	ug/l	0.34	100	2000				
MW-4	Benzene	1/28/09	0.3	ug/l	0.16	1	1				
MW-4	Chlorobenzene	1/28/09	0.3	ug/l	0.13	3	50				
MW-4	Chromium	1/28/09	0.3	ug/l	1.38	10	50				
MW-4	Cobalt	1/28/09	0.7	ug/l	2.53	10			10		
MW-4	Copper	1/28/09	0.9	ug/l	2.24	10	1000				
MW-4	**Iron**	**1/28/09**	**10285**	**ug/l**	**14.0**	**300**	**300**			**9985**	**Natural**
MW-4	Lead	1/28/09	0.1	ug/l	0.04	10	15				
MW-4	**Manganese**	**1/28/09**	**76**	**ug/l**	**0.50**	**50**	**50**			**26**	**Natural**
MW-4	Mercury	1/28/09	0.04	ug/l	0.13	0.2	1.1				
MW-4	Nickel	1/28/09	0.8	ug/l	1.35	50	100				
MW-4	Sulfate	1/28/09	8600	ug/l	5000	250000	250000				
MW-4	Thallium	1/28/09	0.1	ug/l	0.04	5			5		
MW-4	Toluene	1/28/09	4.2	ug/l	0.13	1	1000				
MW-4	Total Alkalinity	1/28/09	2000	ug/l	1000	1000					
MW-4	Total Dissolved Solids	1/28/09	44000	ug/l	1000	1000	500000				
MW-4	Vanadium	1/28/09	2	ug/l	1.21	25			3.5		
MW-4	Zinc	1/28/09	6.2	ug/l	1.86	10	1050				
MW-6	Arsenic	1/28/09	0.1	ug/l	0.07	10	50				
MW-6	Barium	1/28/09	84.7	ug/l	0.34	100	2000				
MW-6	Beryllium	1/28/09	0.1	ug/l	0.17	1			4		
MW-6	Cadmium	1/28/09	0.2	ug/l	0.04	1	1.75				
MW-6	Cobalt	1/28/09	1	ug/l	2.53	10			10		
MW-6	Copper	1/28/09	0.7	ug/l	2.24	10	1000				
MW-6	**Iron**	**1/28/09**	**1904**	**ug/l**	**14.0**	**300**	**300**			**1604**	**Natural**
MW-6	Lead	1/28/09	1.2	ug/l	0.04	10	15				
MW-6	**Manganese**	**1/28/09**	**125**	**ug/l**	**0.50**	**50**	**50**			**75**	**Natural**
MW-6	Mercury	1/28/09	0.04	ug/l	0.13	0.2	1.1				
MW-6	Nickel	1/28/09	2.6	ug/l	1.35	50	100				
MW-6	Selenium	1/28/09	0.6	ug/l	0.14	10	50				
MW-6	Sulfate	1/28/09	27800	ug/l	5000	250000	250000				
MW-6	Tetrachloroethene	1/28/09	0.3	ug/l	0.16	1	0.7				
MW-6	Thallium	1/28/09	0.1	ug/l	0.04	5			5		
MW-6	Total Dissolved Solids	1/28/09	108000	ug/l	1000	1000	500000				
MW-6	Vanadium	1/28/09	0.4	ug/l	1.21	25			3.5		
MW-6	Zinc	1/28/09	509	ug/l	1.86	10	1050				

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	NCGW 2L [4]	NCSW 2B [5]	GWP [6]	Exceedance	Preliminary Cause
MW-9	Arsenic	1/28/09	1.8	ug/l	0.07	10	50				
MW-9	Barium	1/28/09	71.1	ug/l	0.34	100	2000				
MW-9	Beryllium	1/28/09	0.1	ug/l	0.17	1			4		
MW-9	Cadmium	1/28/09	0.1	ug/l	0.04	1	1.75				
MW-9	Chloride	1/28/09	9000	ug/l	5000	5000	250000				
MW-9	Chromium	1/28/09	0.4	ug/l	1.38	10	50				
MW-9	Cobalt	1/28/09	22	ug/l	2.53	10			10		
MW-9	Copper	1/28/09	0.4	ug/l	2.24	10	1000				
MW-9	**Iron**	**1/28/09**	**11410**	**ug/l**	**14.0**	**300**	**300**			**11110**	**Natural**
MW-9	Lead	1/28/09	0.6	ug/l	0.04	10	15				
MW-9	**Manganese**	**1/28/09**	**1763**	**ug/l**	**0.50**	**50**	**50**			**1713**	**Natural**
MW-9	Mercury	1/28/09	0.12	ug/l	0.13	0.2	1.1				
MW-9	Nickel	1/28/09	3.1	ug/l	1.35	50	100				
MW-9	Sulfate	1/28/09	28000	ug/l	5000	250000	250000				
MW-9	Thallium	1/28/09	0.2	ug/l	0.04	5			5		
MW-9	Total Alkalinity	1/28/09	34000	ug/l	1000	1000					
MW-9	Total Dissolved Solids	1/28/09	109000	ug/l	1000	1000	500000				
MW-9	Zinc	1/28/09	8.9	ug/l	1.86	10	1050				
MW-11	1,2-Dichloropropane	1/28/09	0.4	ug/l	0.17	1	0.51				
MW-11	Arsenic	1/28/09	0.1	ug/l	0.07	10	50				
MW-11	Barium	1/28/09	22.9	ug/l	0.11	100	2000				
MW-11	Beryllium	1/28/09	0.1	ug/l	0.06	1			4		
MW-11	Chloride	1/28/09	18000	ug/l	5000	5000	250000				
MW-11	Chromium	1/28/09	0.2	ug/l	0.11	10	50				
MW-11	Cobalt	1/28/09	0.3	ug/l	0.03	10			10		
MW-11	Copper	1/28/09	0.8	ug/l	0.05	10	1000				
MW-11	**Iron**	**1/28/09**	**909**	**ug/l**	**14.0**	**300**	**300**			**609**	**Natural**
MW-11	Lead	1/28/09	0.2	ug/l	0.04	10	15				
MW-11	Manganese	1/28/09	17	ug/l	0.50	50	50				
MW-11	Mercury	1/28/09	0.03	ug/l	0.13	0.2	1.1				
MW-11	Nickel	1/28/09	0.5	ug/l	0.06	50	100				
MW-11	Sulfate	1/28/09	15500	ug/l	5000	250000	250000				
MW-11	Total Dissolved Solids	1/28/09	42000	ug/l	1000	1000	500000				
MW-11	Vanadium	1/28/09	0.8	ug/l	0.07	25			3.5		
MW-11	Zinc	1/28/09	3.4	ug/l	0.04	10	1050				

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	NCGW 2L [4]	NCSW 2B [5]	GWP [6]	Exceedance	Preliminary Cause
MW-12	Arsenic	1/28/09	0.1	ug/l	0.07	10	50				
MW-12	Barium	1/28/09	140	ug/l	0.11	100	2000				
MW-12	Benzene	1/28/09	0.6	ug/l	0.16	1	1				
MW-12	Beryllium	1/28/09	0.1	ug/l	0.06	1			4		
MW-12	Cadmium	1/28/09	0.1	ug/l	0.04	1	1.75				
MW-12	Chloride	1/28/09	30000	ug/l	5000	5000	250000				
MW-12	Chromium	1/28/09	0.3	ug/l	0.11	10	50				
MW-12	Cis-1,2-Dichloroethene	1/28/09	0.2	ug/l	0.14	5	70				
MW-12	Cobalt	1/28/09	1.5	ug/l	0.03	10			10		
MW-12	Copper	1/28/09	0.8	ug/l	0.05	10	1000				
MW-12	**Iron**	**1/28/09**	**488**	**ug/l**	**14.0**	**300**	**300**			**188**	**Natural**
MW-12	Lead	1/28/09	0.2	ug/l	0.04	10	15				
MW-12	Manganese	1/28/09	12	ug/l	0.50	50	50				
MW-12	Mercury	1/28/09	0.33	ug/l	0.13	0.2	1.1				
MW-12	Nickel	1/28/09	2.3	ug/l	0.06	50	100				
MW-12	Selenium	1/28/09	0.5	ug/l	0.14	10	50				
MW-12	Silver	1/28/09	0.1	ug/l	0.04	10	18				
MW-12	Sulfate	1/28/09	9800	ug/l	5000	250000	250000				
MW-12	Total Dissolved Solids	1/28/09	79000	ug/l	1000	1000	500000				
MW-12	Vanadium	1/28/09	0.5	ug/l	0.07	25			3.5		
MW-12	**Vinyl Chloride**	**1/28/09**	**0.6[j]**	**ug/l**	**0.34**	**1**	**0.015**			**0.585**	**Leachate &/or LFG**
MW-12	Zinc	1/28/09	4.3	ug/l	0.04	10	1050				
SW-1	Arsenic	1/28/09	0.1	ug/l	0.07	10		10			
SW-1	Barium	1/28/09	40.8	ug/l	0.11	100		200000			
SW-1	Cobalt	1/28/09	0.2	ug/l	0.03	10		270			
SW-1	Copper	1/28/09	0.5	ug/l	0.05	10		7			
SW-1	Lead	1/28/09	0.1	ug/l	0.04	10		25			
SW-1	Nickel	1/28/09	1.8	ug/l	0.06	50		88			
SW-1	Vanadium	1/28/09	0.1	ug/l	0.07	25		NE			
SW-1	Zinc	1/28/09	3.5	ug/l	0.04	10		50			
SW-2	Acetone	1/28/09	1.7	ug/l	1.21	100		2000			
SW-2	Antimony	1/28/09	0.2	ug/l	0.08	6		640			
SW-2	Arsenic	1/28/09	0.9	ug/l	0.07	10		10			
SW-2	Barium	1/28/09	45	ug/l	0.11	100		200000			
SW-2	Beryllium	1/28/09	0.1	ug/l	0.06	1		6.5			
SW-2	Cadmium	1/28/09	0.1	ug/l	0.04	1		2			
SW-2	Chromium	1/28/09	2.4	ug/l	0.11	10		50			
SW-2	Cobalt	1/28/09	0.6	ug/l	0.03	10		270			
SW-2	Copper	1/28/09	2.8	ug/l	0.05	10		7			
SW-2	Lead	1/28/09	2.1	ug/l	0.04	10		25			
SW-2	Nickel	1/28/09	2.2	ug/l	0.06	50		88			
SW-2	Thallium	1/28/09	0.1	ug/l	0.04	5		0.47			
SW-2	Vanadium	1/28/09	4.3	ug/l	0.07	25		NE			
SW-2	Zinc	1/28/09	15	ug/l	0.04	10		50			
EB	Acetonitrile	1/28/09	8.9	ug/l	5.96	50					
EB	Barium	1/28/09	0.3	ug/l	0.11	100	2000				
EB	Copper	1/28/09	0.3	ug/l	0.05	10	1000				
EB	Mercury	1/28/09	0.03	ug/l	0.13	0.2	1.1				
EB	Nickel	1/28/09	0.1	ug/l	1.35	50	100				

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	NCGW 2L [4]	NCSW 2B [5]	GWP [6]	Exceedance	Preliminary Cause

[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] NCGW2L = North Carolina Ground Water 2L Standard (Current as of Sampling Event)

[5] NCSW2B = North Carolina Surface Water 2B Standard for Specific Stream Classification (Current as of Sampling Event)

[6] GWP = Groundwater Protection 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, where applicable.

LFG = Landfill Gas

NE = Not Established

Hydrologic Properties at Monitoring Well Locations
Lenoir County Closed MSWLF and Active C&D Landfill

Monitoring Well	Hydraulic Conductivity (cm/sec)	Effective Porosity (%)	Hydraulic Gradient	Flow Rate (ft/yr)	Flow Direction	Water Table Depth (ft)	Water Table Elevation (ft)
MW-1	4.30E-04	20%	0.01	19.0	N21E	19.88	78.46
MW-3	1.30E-04	20%	0.01	5.5	N26E	5.35	58.52
MW-4	5.40E-04	20%	0.01	23.3	N26E	5.42	62.61
MW-6	-	-	0.01	-	N15E	12.15	73.41
MW-9	3.80E-04	20%	0.01	11.9	N39E	5.36	57.04
MW-11	6.59E-04	20%	0.01	22.4	N27E	13.57	64.69
MW-12	2.10E-04	20%	0.006	6.9	N27E	16.34	61.12

NOTE: 1.Hydraulic conductivity (K), values for MW-1 through MW-10 were obtained from GAI Consultants (June 1996).
K values for MW-11 and MW-12 were based on slug test results conducted by MESCO in July 1999.
2.Water levels were measured prior to sampling by Environment 1, Inc. on January 28, 2009.

Flow 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 Closed MSWLF and Active C&D Landfill

Background Well: MW-1

Barium, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
100	-	Poisson tolerance limit	ND	10	log[ug/l]

Well	Result	Significance
MW-12	4.942	no

Cobalt, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
100	-	Poisson tolerance limit	ND	15.5	ug/L

Well	Result	Significance
MW-9	22	Yes

Mercury

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
100	-	Poisson tolerance limit	ND	2	log[ug/l]

Well	Result	Significance
MW-12	0.33	no

Zinc, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
96.875	-	Poisson tolerance limit	ND	7.5	log[ug/l]

Well	Result	Significance
MW-3	4.1271	no
MW-6	6.2325	no

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

Summary of Pooled VOCs in Background Well (MW-1)
Lenoir County Closed MSWLF and Active C&D Landfill

Constituent	Samples	NDs	% NDs
1,1,1,2-Tetrachloroethane	32	32	100.00
1,1,1-Trichloroethane	32	32	100.00
1,1,2,2-Tetrachloroethane	32	32	100.00
1,1,2-Trichloroethane	32	32	100.00
1,1-Dichloroethane	32	32	100.00
1,1-Dichloroethene	32	32	100.00
1,2,3-Trichloropropane	32	32	100.00
1,2-Dibromo-3-chloropropane	32	32	100.00
1,2-Dibromoethane	32	32	100.00
1,2-Dichlorobenzene	32	32	100.00
1,2-Dichloroethane	32	32	100.00
1,2-Dichloropropane	32	32	100.00
1,4-Dichlorobenzene	32	32	100.00
2-Butanone	32	32	100.00
2-Hexanone	32	32	100.00
4-Methyl-2-Pentanone	32	32	100.00
Acetone	32	32	100.00
Acrylonitrile	32	32	100.00
Benzene	32	32	100.00
Bromochloromethane	32	32	100.00
Bromodichloromethane	32	32	100.00
Bromoform	32	32	100.00
Bromomethane	32	32	100.00
Carbon disulfide	32	32	100.00
Carbon tetrachloride	32	32	100.00
Chlorobenzene	32	32	100.00
Chloroethane	32	32	100.00
Chloroform	32	32	100.00
Chloromethane	32	32	100.00
cis-1,2-Dichloroethene	32	32	100.00
cis-1,3-Dichloropropene	32	32	100.00
Chlorodibromomethane	32	32	100.00
Dibromomethane	32	32	100.00
Ethylbenzene	32	32	100.00
Iodomethane	32	32	100.00
Dichloromethane	32	32	100.00
Styrene	32	32	100.00
Tetrachloroethylene	32	32	100.00
Toluene	32	32	100.00
trans-1,2-Dichloroethene	32	32	100.00
trans-1,3-Dichloropropene	32	32	100.00
trans-1,4-Dichloro-2-butene	32	32	100.00
Trichloroethylene	32	32	100.00
Trichlorofluoromethane	32	32	100.00
Vinyl acetate	32	32	100.00
Vinyl chloride	32	32	100.00
Xylene	32	32	100.00
Total	**1504**	**1504**	**100.00**

Poisson Prediction Interval Based upon Pooled Background VOCs
Lenoir County Closed MSWLF and Active C&D Landfill

All detected VOCs (Background Well: MW-1)

Constituent	None
None	-
Detection(s) per Scan	0.00

"j" qualifiers omitted for statistical analysis purposes

Total number of sampling events [n] =	32
Total number of detections in background wells [y] =	0
Number of comparisons (downgradient wells) [k] =	6
One-sided value of Student's t-statistic (95% confidence) [t] =	2.51
Expected number of detections in a single future sample [y*] =	**0.1966**

NO Statistically Significant VOC Detections at a 95% Confidence Level

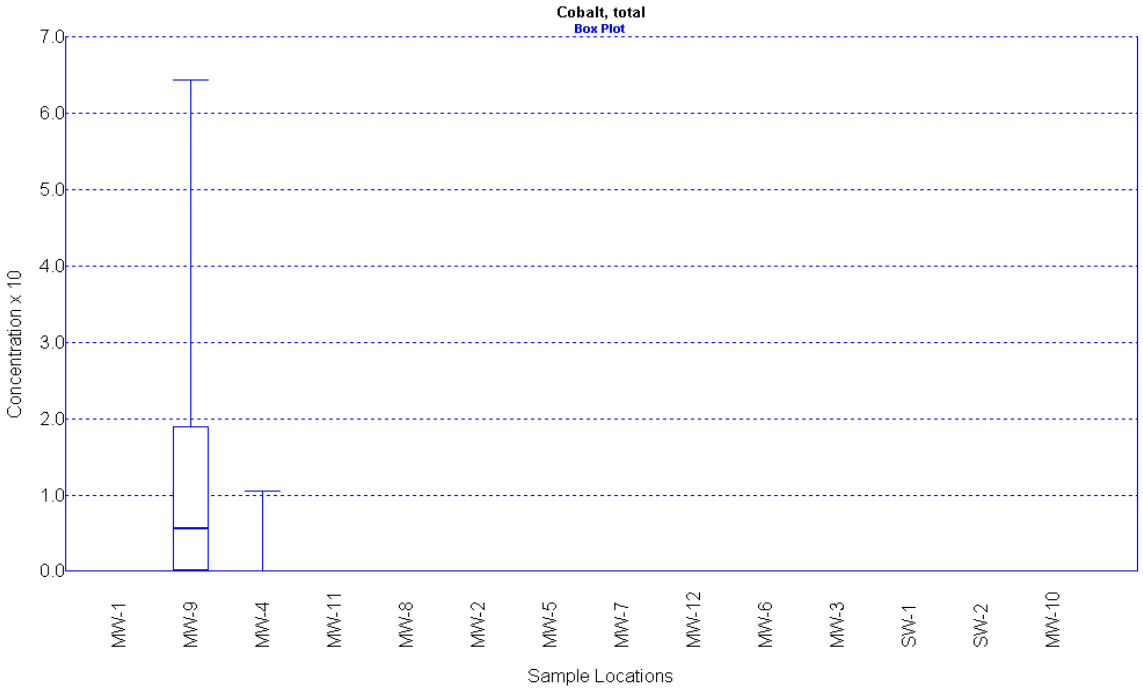
Intra-Well Analysis Summary (Metals)
Lenoir County Closed MSWLF and Active C&D Landfill

Well	Cobalt
MW-9	no

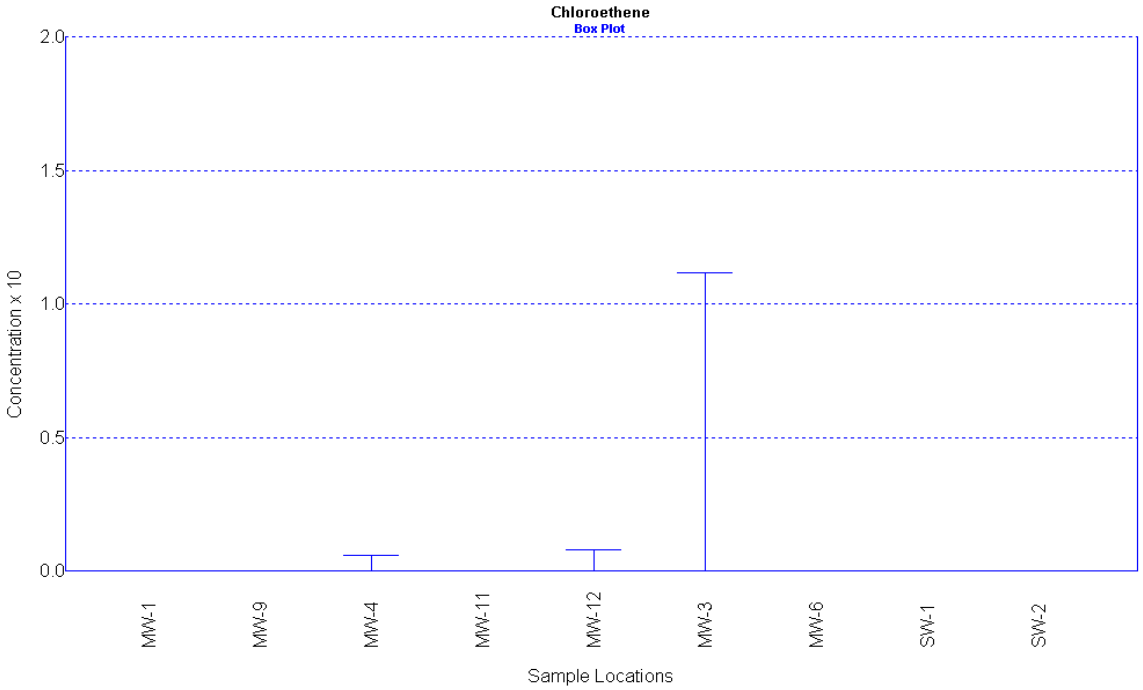
EXPLANATION
yes=detection statistically significant by intrawell analysis
no=detection not statistically significant by intrawell analysis

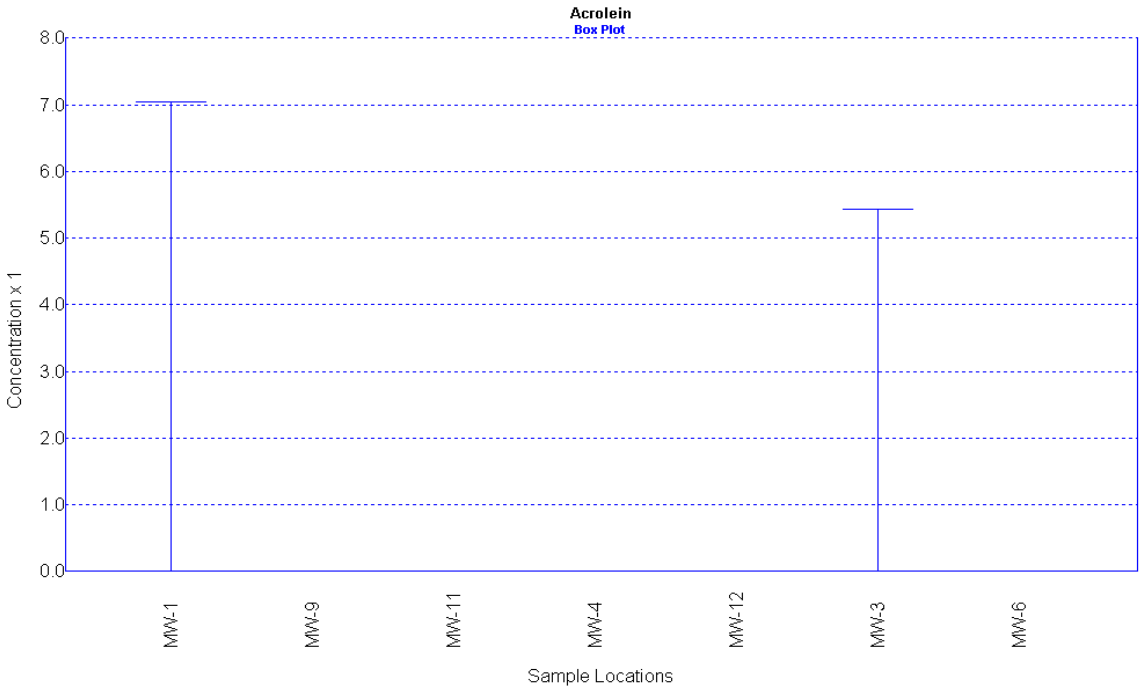
No Metals have increased according to Intrawell Analysis

Box Plots for Select Constituents (Metals)
Lenoir County Closed MSWLF and Active C&D Landfill

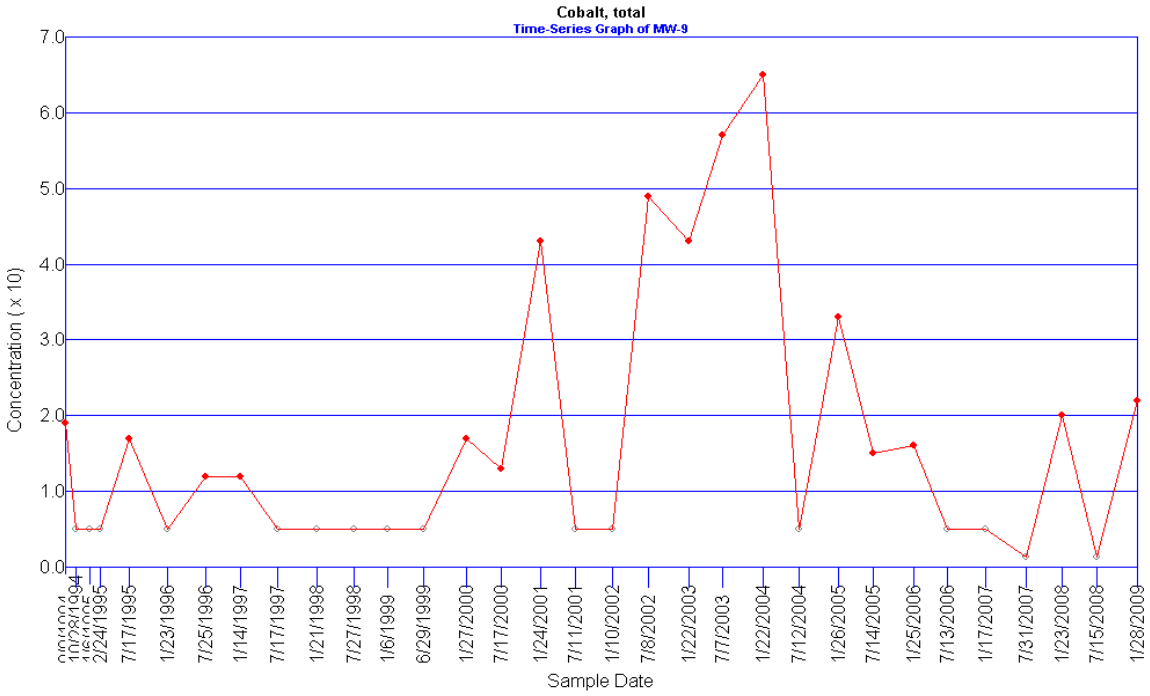


Box Plots for Select Constituents (VOCs)
Lenoir County Closed MSWLF and Active C&D Landfill

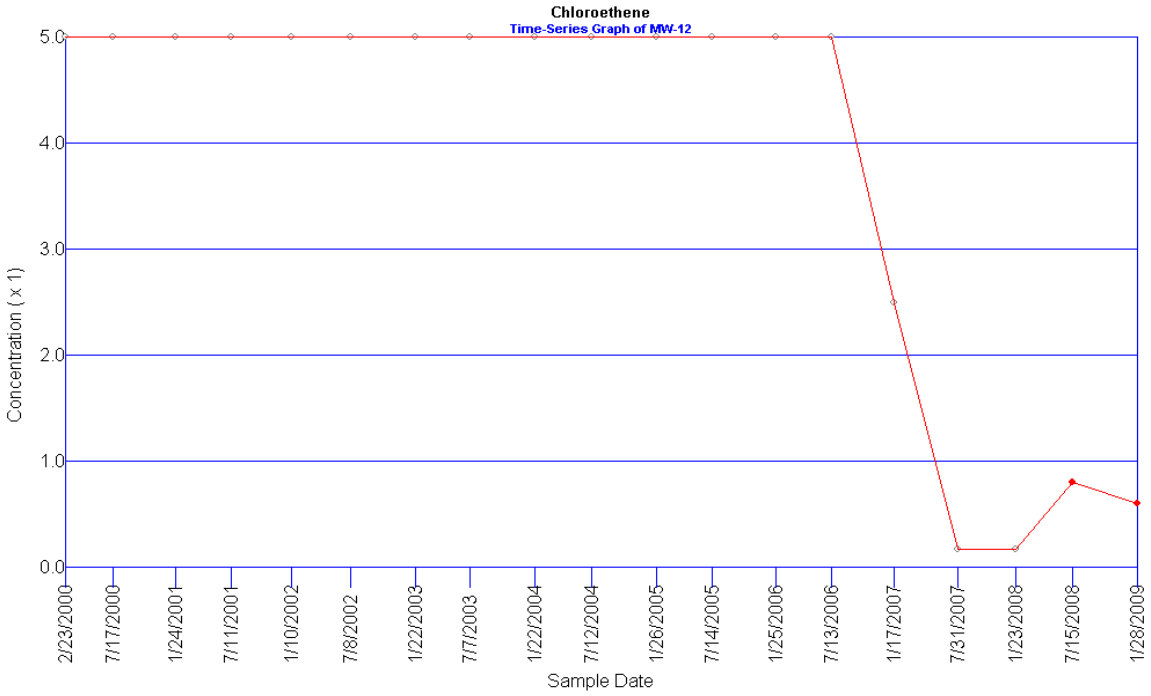




Time Series Plots for Select Constituents (Metals)
Lenoir County Closed MSWLF and Active C&D Landfill



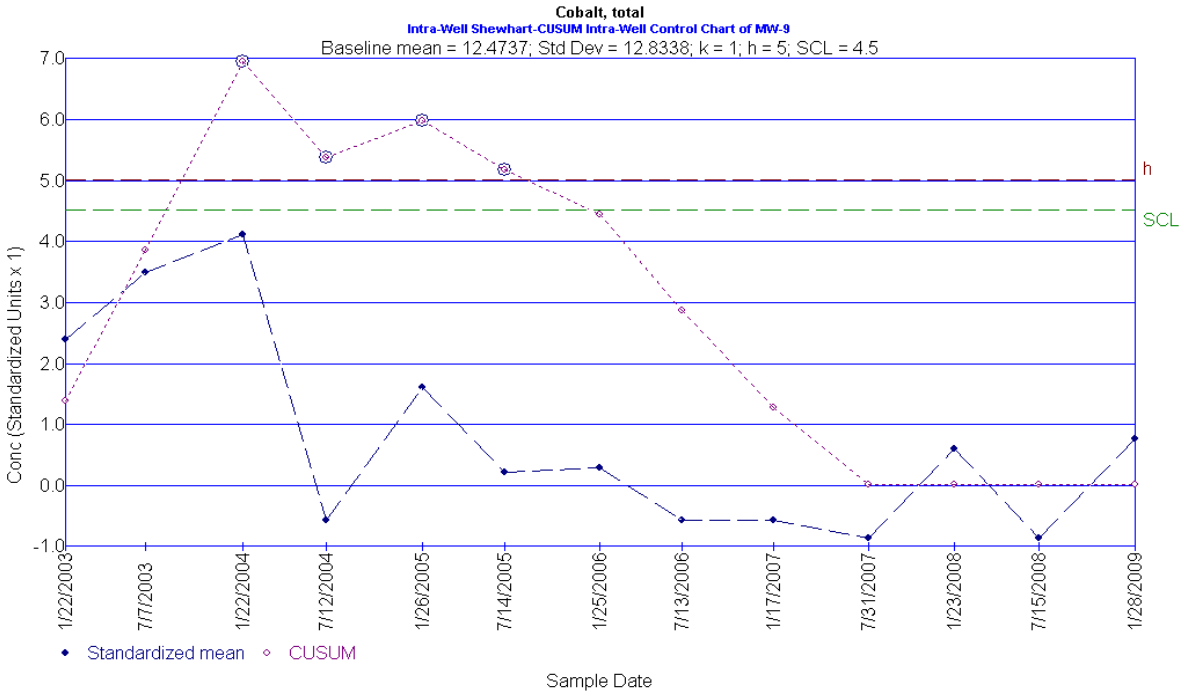
Time Series Plots for Select Constituents (VOCs)
Lenoir County Closed MSWLF and Active C&D Landfill



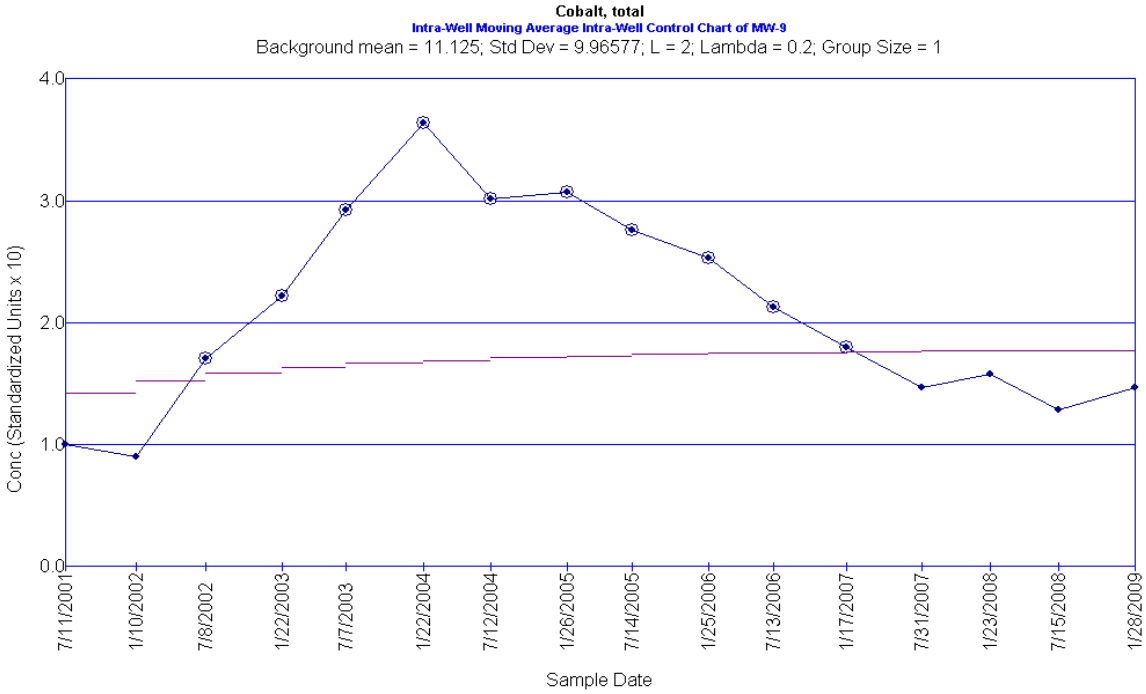
ND = ½ DL

Intrawell Analysis for select constituents
Lenoir County Closed MSWLF and Active C&D Landfill

Shewhart-CUSUM Control Chart



Exponentially Weighted Moving Average (EWMA) Control Chart



Basic Statistics

Basic Statistics

Parameter: Barium, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

	Total Observations
301	
Total Non-Detects	299
Pooled Mean	217.358
Pooled Std Dev	80.3555
Background Mean	214.078
Background Std Dev	85.3746

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-1	32	32	100	6850.51

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1	214.078	85.3746	0	4800	150

Compliance Wells

There are 13 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-9	32	32	100	6850.51
MW-11	20	20	100	3850.24
SW-1	30	30	100	6350.1
MW-6	22	22	100	4350.36
MW-3	32	32	100	6850.36
MW-4	32	32	100	6850.51
MW-12	20	18	90	4122.04
SW-2	28	28	100	6100.19
MW-10	18	18	100	4500
MW-8	18	18	100	4500
MW-7	2	2	100	500
MW-2	6	6	100	1500
MW-5	9	9	100	2250

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-9	214.078	85.3746	0	20.0985	4800	150
MW-11	192.512	102.926	-21.5662	22.9158	3000	150
SW-1	211.67	87.7647	-2.4086	20.4307	4500	150
MW-6	197.744	99.3417	-16.3348	22.2656	3300	150
MW-3	214.074	85.3867	-0.0046875	20.0985	4800	150
MW-4	214.078	85.3746	0	20.0985	4800	150
MW-12	206.102	86.8039	-7.97644	22.9158	3301	165.05
SW-2	217.864	80.7347	3.78549	20.8039	4200	150
MW-10	250	0	35.9216	23.6863	2700	150
MW-8	250	0	35.9216	23.6863	2700	150
MW-7	250	0	35.9216	58.5966	300	150
MW-2	250	0	35.9216	35.7655	900	150
MW-5	250	0	35.9216	30.3332	1350	150

Analysis of Variance Statistics

SS Wells	82171.1
SS Total	1.9371e+006

Kruskal-Wallis Statistics

Non-Detect Rank	150
Background Rank Sum	4800
Background Rank Mean	150
H Statistic	0.558278
H Adjusted for Ties	28.1937

Basic Statistics

Parameter: Cobalt, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

	Total Observations
301	
Total Non-Detects	283
Pooled Mean	5.9249
Pooled Std Dev	6.72069
Background Mean	4.61672
Background Std Dev	1.22068

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-1	32	32	100	147.735

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1	4.61672	1.22068	0	4544	142

Compliance Wells

There are 13 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-4	32	30	93.75	159.795
MW-11	20	20	100	86.485
MW-6	22	22	100	97.735
SW-1	30	30	100	135.425
MW-3	32	32	100	147.735
MW-12	20	20	100	86.485
SW-2	28	28	100	131.47
MW-9	32	16	50	525.53
MW-10	18	18	100	90
MW-8	18	18	100	90
MW-2	6	6	100	30
MW-5	9	9	100	45
MW-7	2	2	100	10

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-4	4.99359	1.82146	0.376875	1.445	4829	150.906
MW-11	4.32425	1.6648	-0.292469	1.64755	2840	142
MW-6	4.4425	1.44839	-0.174219	1.60081	3124	142
SW-1	4.51417	1.4827	-0.102552	1.46889	4260	142
MW-3	4.61672	1.22068	0	1.445	4544	142
MW-12	4.32425	1.6648	-0.292469	1.64755	2840	142
SW-2	4.69536	1.12782	0.0786384	1.49572	3976	142
MW-9	16.4228	17.1761	11.8061	1.445	6968	217.75
MW-10	5	0	0.383281	1.70295	2556	142
MW-8	5	0	0.383281	1.70295	2556	142
MW-2	5	0	0.383281	2.5714	852	142
MW-5	5	0	0.383281	2.18084	1278	142
MW-7	5	0	0.383281	4.21287	284	142

Analysis of Variance Statistics

SS Wells	3962.08
SS Total	13550.3

Kruskal-Wallis Statistics

Non-Detect Rank	142
Background Rank Sum	4544
Background Rank Mean	142
H Statistic	21.356
H Adjusted for Ties	126.45

Basic Statistics

Parameter: Mercury

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

	Total Observations
145	
Total Non-Detects	122
Pooled Mean	0.396862
Pooled Std Dev	0.673311
Background Mean	0.2025
Background Std Dev	0.0793586

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-1	18	18	100	3.645

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1	0.2025	0.0793586	0	1107	61.5

Compliance Wells

There are 11 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-6	12	12	100	2.145
MW-4	18	17	94.4444	3.895
MW-9	17	17	100	3.395
MW-3	22	20	90.9091	5.82
MW-12	11	8	72.7273	2.65
MW-11	11	11	100	1.895
MW-5	5	2	40	5.14
MW-8	13	2	15.3846	23.21
MW-10	13	10	76.9231	4.5
MW-2	4	4	100	1
MW-7	1	1	100	0.25

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-6	0.17875	0.0888084	-0.02375	0.189478	738	61.5
MW-4	0.216389	0.105674	0.0138889	0.169475	1172.5	65.1389
MW-9	0.199706	0.0808832	-0.00279412	0.171949	1045.5	61.5
MW-3	0.264545	0.230723	0.0620455	0.161588	1488	67.6364
MW-12	0.240909	0.115776	0.0384091	0.194577	867	78.8182
MW-11	0.172273	0.0901211	-0.0302273	0.194577	676.5	61.5
MW-5	1.028	0.901482	0.8255	0.257021	534	106.8
MW-8	1.78538	1.55189	1.58288	0.185054	1642	126.308
MW-10	0.346154	0.184234	0.143654	0.185054	1007	77.4615
MW-2	0.25	0	0.0475	0.281042	246	61.5
MW-7	0.25	0	0.0475	0.522356	61.5	61.5

Analysis of Variance Statistics

SS Wells	30.9023
SS Total	65.2821

Kruskal-Wallis Statistics

Non-Detect Rank	61.5
Background Rank Sum	1107
Background Rank Mean	61.5
H Statistic	30.248
H Adjusted for Ties	74.8004

Basic Statistics

Parameter: Zinc, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

	Total Observations
301	
Total Non-Detects	250
Pooled Mean	48.7251
Pooled Std Dev	119.816
Background Mean	21.655
Background Std Dev	8.06564

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-1	32	31	96.875	692.96

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1	21.655	8.06564	0	4142.5	129.453

Compliance Wells

There are 13 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-9	32	27	84.375	902.96
MW-12	20	20	100	386.05
SW-2	28	23	82.1429	716.2
MW-11	20	19	95	415.05
MW-3	32	13	40.625	6009.93
SW-1	30	29	96.6667	700.22
MW-4	32	24	75	2117.96
MW-6	22	15	68.1818	1111.93
MW-10	18	17	94.4444	465
MW-5	9	8	88.8889	325
MW-8	18	16	88.8889	623
MW-2	6	6	100	150
MW-7	2	2	100	50

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-9	28.2175	19.9009	6.5625	27.8228	4748.5	148.391
MW-12	19.3025	10.1933	-2.3525	31.7229	2510	125.5
SW-2	25.5786	14.5203	3.92357	28.7994	4204.5	150.161
MW-11	20.7525	12.7806	-0.9025	31.7229	2648.5	132.425
MW-3	187.81	260.234	166.155	27.8228	7058.5	220.578
SW-1	23.3407	15.3201	1.68567	28.2828	3921.5	130.717
MW-4	66.1862	194.654	44.5312	27.8228	5206	162.688
MW-6	50.5423	103.42	28.8873	30.8228	3751.5	170.523
MW-10	25.8333	3.53553	4.17833	32.7895	2393.5	132.972
MW-5	36.1111	33.3333	14.4561	41.9911	1289	143.222
MW-8	34.6111	29.8647	12.9561	32.7895	2573	142.944
MW-2	25	0	3.345	49.5111	753	125.5
MW-7	25	0	3.345	81.1168	251	125.5

Analysis of Variance Statistics

SS Wells	752016
SS Total	4.30673e+006

Kruskal-Wallis Statistics

Non-Detect Rank	125.5
Background Rank Sum	4142.5
Background Rank Mean	129.453
H Statistic	30.0691
H Adjusted for Ties	70.4116

Basic Statistics

Parameter: Chloroethene

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

	Total Observations
301	
Total Non-Detects	264
Pooled Mean	7.07312
Pooled Std Dev	9.00524
Background Mean	4.32844
Background Std Dev	1.62694

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-1	32	32	100	138.51

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1	4.32844	1.62694	0	4240	132.5

Compliance Wells

There are 13 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-12	20	18	90	79.24
MW-4	32	31	96.875	138.94
MW-9	32	32	100	138.51
MW-11	20	20	100	78.51
MW-3	32	31	96.875	149.64
SW-1	30	30	100	128.51
SW-2	28	28	100	123.34
MW-6	22	22	100	88.51
MW-10	18	3	16.6667	573
MW-2	6	6	100	30
MW-8	18	7	38.8889	299
MW-5	9	4	44.4444	127.3
MW-7	2	0	0	36

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-12	3.962	1.8968	-0.366437	1.59685	2917	145.85
MW-4	4.34187	1.5929	0.0134375	1.40053	4373.5	136.672
MW-9	4.32844	1.62694	0	1.40053	4240	132.5
MW-11	3.9255	1.96543	-0.402937	1.59685	2650	132.5
MW-3	4.67625	1.87938	0.347813	1.40053	4378.5	136.828
SW-1	4.28367	1.67221	-0.0447708	1.42368	3975	132.5
SW-2	4.405	1.53049	0.0765625	1.44969	3710	132.5
MW-6	4.02318	1.89605	-0.305256	1.55154	2915	132.5
MW-10	31.8333	15.9567	27.5049	1.65054	4765.5	264.75
MW-2	5	0	0.671563	2.49226	795	132.5
MW-8	16.6111	13.0975	12.2827	1.65054	4013.5	222.972
MW-5	14.1444	10.7267	9.81601	2.11372	1926	214
MW-7	18	11.3137	13.6716	4.08321	552	276

Analysis of Variance Statistics

SS Wells	15321.2
SS Total	24328.3

Kruskal-Wallis Statistics

Non-Detect Rank	132.5
Background Rank Sum	4240
Background Rank Mean	132.5
H Statistic	61.3615
H Adjusted for Ties	188.631

Basic Statistics

Parameter: Toluene

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

	Total Observations
301	
Total Non-Detects	290
Pooled Mean	2.26091
Pooled Std Dev	0.876621
Background Mean	2.18531
Background Std Dev	0.773128

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-1	32	31	96.875	69.93

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1	2.18531	0.773128	0	4803.5	150.109

Compliance Wells

There are 13 compliance wells

Well	Samples	Non-Detects	% ND	Total
SW-2	28	27	96.4286	62.465
MW-4	32	30	93.75	73.73
MW-9	32	32	100	69.695
MW-12	20	19	95	39.93
MW-6	22	21	95.4545	44.83
SW-1	30	29	96.6667	64.83
MW-3	32	29	90.625	79.43
MW-11	20	20	100	39.695
MW-2	6	6	100	15
MW-10	18	17	94.4444	48.5
MW-8	18	18	100	45
MW-5	9	9	100	22.5
MW-7	2	2	100	5

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
SW-2	2.23089	0.702153	0.0455804	0.225937	4223.5	150.839
MW-4	2.30406	0.781436	0.11875	0.218275	4959	154.969
MW-9	2.17797	0.792488	-0.00734375	0.218275	4656	145.5
MW-12	1.9965	0.935505	-0.188813	0.248872	3058.5	152.925
MW-6	2.03773	0.911491	-0.147585	0.241811	3346.5	152.114
SW-1	2.161	0.803029	-0.0243125	0.221884	4511.5	150.383
MW-3	2.48219	1.46704	0.296875	0.218275	5117.5	159.922
MW-11	1.98475	0.959112	-0.200563	0.248872	2910	145.5
MW-2	2.5	0	0.314688	0.388424	873	145.5
MW-10	2.69444	0.824958	0.509132	0.25724	2772.5	154.028
MW-8	2.5	0	0.314688	0.25724	2619	145.5
MW-5	2.5	0	0.314688	0.329428	1309.5	145.5
MW-7	2.5	0	0.314688	0.636377	291	145.5

Analysis of Variance Statistics

SS Wells	11.7574
SS Total	230.539

Kruskal-Wallis Statistics

Non-Detect Rank	145.5
Background Rank Sum	4803.5
Background Rank Mean	150.109
H Statistic	0.790333
H Adjusted for Ties	7.47872

Basic Statistics

Parameter: Acrolein

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

	Total Observations
94	
Total Non-Detects	92
Pooled Mean	46.5268
Pooled Std Dev	11.7659
Background Mean	42.8019
Background Std Dev	16.0642

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-1	16	15	93.75	684.83

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1	42.8019	16.0642	0	791.5	49.4688

Compliance Wells

There are 10 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-3	22	21	95.4545	888.69
MW-5	2	2	100	100
MW-11	6	6	100	300
MW-10	9	9	100	450
MW-12	6	6	100	300
MW-8	9	9	100	450
MW-6	6	6	100	300
MW-9	8	8	100	400
MW-4	9	9	100	450
MW-2	1	1	100	50

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-3	40.395	18.6177	-2.40687	3.80816	1069.5	48.6136
MW-5	50	0	7.19812	8.69273	93	46.5
MW-11	50	0	7.19812	5.54844	279	46.5
MW-10	50	0	7.19812	4.8293	418.5	46.5
MW-12	50	0	7.19812	5.54844	279	46.5
MW-8	50	0	7.19812	4.8293	418.5	46.5
MW-6	50	0	7.19812	5.54844	279	46.5
MW-9	50	0	7.19812	5.01875	372	46.5
MW-4	50	0	7.19812	4.8293	418.5	46.5
MW-2	50	0	7.19812	11.947	46.5	46.5

Analysis of Variance Statistics

SS Wells	1724.71
SS Total	12874.5

Kruskal-Wallis Statistics

Non-Detect Rank	46.5
Background Rank Sum	791.5
Background Rank Mean	49.4688
H Statistic	0.195252
H Adjusted for Ties	3.12473

Interwell Analyses for Metals

Poisson Tolerance Limit

Parameter: Barium, total

Natural Logarithm Transformation
Non-Detects Replaced with Detection Limit

Poisson Count of 32 background Samples = 173.768
Degrees of Freedom = 349

95% Confidence Values

Chi-Squared Value (95% Confidence) = 393.564
Lambda (from Zack's formula) = 6.14943
Smallest Degrees of Freedom = 22
Upper Tolerance Limit (95%) = 10

99% Confidence Values

Chi-Squared Value (99% Confidence) = 413.386
Lambda (from Zack's formula) = 6.45915
Smallest Degrees of Freedom = 28
Upper Tolerance Limit (99%) = 13

	Date	Result	Impacted 95%	Impacted 99%
MW-12	2/23/2000	ND<6.21461	FALSE	FALSE
	2/23/2000	ND<6.21461	FALSE	FALSE
	7/17/2000	ND<6.21461	FALSE	FALSE
	1/24/2001	ND<6.21461	FALSE	FALSE
	7/11/2001	ND<6.21461	FALSE	FALSE
	1/10/2002	ND<6.21461	FALSE	FALSE
	7/8/2002	ND<6.21461	FALSE	FALSE
	1/22/2003	ND<6.21461	FALSE	FALSE
	7/7/2003	ND<6.21461	FALSE	FALSE
	1/22/2004	ND<6.21461	FALSE	FALSE
	7/12/2004	ND<6.21461	FALSE	FALSE
	1/26/2005	ND<6.21461	FALSE	FALSE
	7/14/2005	ND<6.21461	FALSE	FALSE
	1/25/2006	ND<6.21461	FALSE	FALSE
	7/13/2006	ND<6.21461	FALSE	FALSE
	1/17/2007	ND<4.60517	FALSE	FALSE
	7/31/2007	ND<-3.21888	FALSE	FALSE
	1/23/2008	ND<-3.21888	FALSE	FALSE
	7/15/2008	5.20401	FALSE	FALSE
	1/28/2009	4.94164	FALSE	FALSE

Poisson Tolerance Limit

Parameter: Cobalt, total

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Poisson Count of 32 background Samples = 295.47
Degrees of Freedom = 592

95% Confidence Values

Chi-Squared Value (95% Confidence) = 649.712
Lambda (from Zack's formula) = 10.1518
Smallest Degrees of Freedom = 33
Upper Tolerance Limit (95%) = 15.5

99% Confidence Values

Chi-Squared Value (99% Confidence) = 674.977
Lambda (from Zack's formula) = 10.5465
Smallest Degrees of Freedom = 39
Upper Tolerance Limit (99%) = 18.5

	Date	Result	Impacted 95%	Impacted 99%
MW-9	9/9/1994	19	TRUE	TRUE
	10/28/1994	ND<10	FALSE	FALSE
	1/6/1995	ND<10	FALSE	FALSE
	2/24/1995	ND<10	FALSE	FALSE
	7/17/1995	17	TRUE	FALSE
	1/23/1996	ND<10	FALSE	FALSE
	7/25/1996	12	FALSE	FALSE
	1/14/1997	12	FALSE	FALSE
	7/17/1997	ND<10	FALSE	FALSE
	1/21/1998	ND<10	FALSE	FALSE
	7/27/1998	ND<10	FALSE	FALSE
	1/6/1999	ND<10	FALSE	FALSE
	6/29/1999	ND<10	FALSE	FALSE
	1/27/2000	17	TRUE	FALSE
	7/17/2000	13	FALSE	FALSE
	1/24/2001	43	TRUE	TRUE
	7/11/2001	ND<10	FALSE	FALSE
	1/10/2002	ND<10	FALSE	FALSE
	7/8/2002	49	TRUE	TRUE
	1/22/2003	43	TRUE	TRUE
	7/7/2003	57	TRUE	TRUE
	1/22/2004	65	TRUE	TRUE
	7/12/2004	ND<10	FALSE	FALSE
	1/26/2005	33	TRUE	TRUE
	7/14/2005	15	FALSE	FALSE
	1/25/2006	16	TRUE	FALSE
	7/13/2006	ND<10	FALSE	FALSE
	1/17/2007	ND<10	FALSE	FALSE
	7/31/2007	ND<2.53	FALSE	FALSE
	1/23/2008	20	TRUE	TRUE
	7/15/2008	ND<2.53	FALSE	FALSE
	1/28/2009	22	TRUE	TRUE

Poisson Tolerance Limit

Parameter: Mercury

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Poisson Count of 18 background Samples = 7.29
Degrees of Freedom = 16

95% Confidence Values

Chi-Squared Value (95% Confidence) = 26.2962
Lambda (from Zack's formula) = 0.730451
Smallest Degrees of Freedom = 6
Upper Tolerance Limit (95%) = 2

99% Confidence Values

Chi-Squared Value (99% Confidence) = 31.9999
Lambda (from Zack's formula) = 0.888885
Smallest Degrees of Freedom = 9
Upper Tolerance Limit (99%) = 3.5

	Date	Result	Impacted 95%	Impacted 99%
MW-12	2/23/2000	ND<0.5	FALSE	FALSE
	2/23/2000	ND<0.5	FALSE	FALSE
	7/17/2000	ND<0.5	FALSE	FALSE
	1/24/2001	ND<0.5	FALSE	FALSE
	7/11/2001	ND<0.5	FALSE	FALSE
	1/10/2002	ND<0.5	FALSE	FALSE
	1/17/2007	0.2	FALSE	FALSE
	7/31/2007	ND<0.13	FALSE	FALSE
	1/23/2008	ND<0.13	FALSE	FALSE
	7/15/2008	0.49	FALSE	FALSE
	1/28/2009	0.33	FALSE	FALSE

Poisson Tolerance Limit

Parameter: Zinc, total

Natural Logarithm Transformation
Non-Detects Replaced with Detection Limit

Poisson Count of 32 background Samples = 109.957
Degrees of Freedom = 221

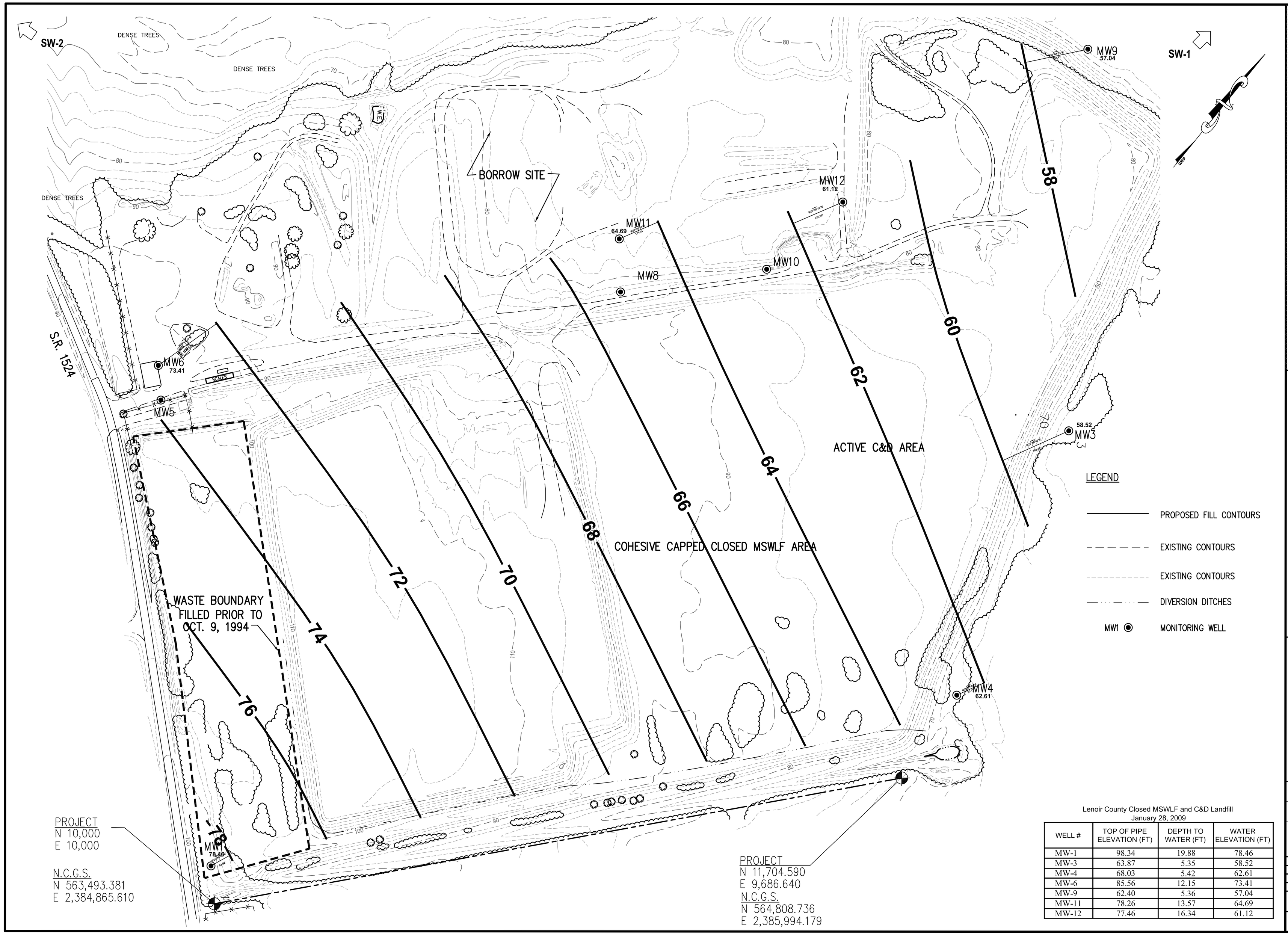
95% Confidence Values

Chi-Squared Value (95% Confidence) = 256.68
Lambda (from Zack's formula) = 4.01063
Smallest Degrees of Freedom = 17
Upper Tolerance Limit (95%) = 7.5

99% Confidence Values

Chi-Squared Value (99% Confidence) = 272.828
Lambda (from Zack's formula) = 4.26293
Smallest Degrees of Freedom = 21
Upper Tolerance Limit (99%) = 9.5

	Date	Result	Impacted 95%	Impacted 99%
MW-3	9/9/1994	ND<3.91202	FALSE	FALSE
	10/28/1994	ND<3.91202	FALSE	FALSE
	1/6/1995	ND<3.91202	FALSE	FALSE
	2/24/1995	ND<3.91202	FALSE	FALSE
	7/17/1995	ND<3.91202	FALSE	FALSE
	1/23/1996	ND<3.91202	FALSE	FALSE
	7/25/1996	ND<3.91202	FALSE	FALSE
	1/14/1997	ND<3.91202	FALSE	FALSE
	7/11/1997	ND<3.91202	FALSE	FALSE
	1/21/1998	ND<3.91202	FALSE	FALSE
	7/27/1998	5.18739	FALSE	FALSE
	1/6/1999	5.84932	FALSE	FALSE
	6/29/1999	6.49527	FALSE	FALSE
	1/27/2000	6.62007	FALSE	FALSE
	7/17/2000	ND<3.91202	FALSE	FALSE
	1/24/2001	5.78074	FALSE	FALSE
	7/11/2001	6.34914	FALSE	FALSE
	1/10/2002	5.4161	FALSE	FALSE
	7/8/2002	6.06611	FALSE	FALSE
	1/22/2003	5.63479	FALSE	FALSE
	7/7/2003	7.00397	FALSE	FALSE
	1/22/2004	5.33754	FALSE	FALSE
	7/12/2004	4.83628	FALSE	FALSE
	1/26/2005	4.46591	FALSE	FALSE
	7/14/2005	5.0689	FALSE	FALSE
	1/25/2006	4.04305	FALSE	FALSE
	7/13/2006	ND<3.91202	FALSE	FALSE
	1/17/2007	4.48864	FALSE	FALSE
	7/31/2007	ND<0.620576	FALSE	FALSE
	1/23/2008	3.29584	FALSE	FALSE
	7/15/2008	3.13549	FALSE	FALSE
	1/28/2009	4.12713	FALSE	FALSE
MW-6	7/27/1998	ND<3.91202	FALSE	FALSE
	1/6/1999	ND<3.91202	FALSE	FALSE
	6/29/1999	ND<3.91202	FALSE	FALSE
	1/27/2000	4.07754	FALSE	FALSE
	7/17/2000	4.02535	FALSE	FALSE
	1/24/2001	ND<3.91202	FALSE	FALSE
	7/11/2001	ND<3.91202	FALSE	FALSE
	1/10/2002	ND<3.91202	FALSE	FALSE
	7/8/2002	ND<3.91202	FALSE	FALSE
	1/22/2003	ND<3.91202	FALSE	FALSE
	7/7/2003	3.93183	FALSE	FALSE
	1/22/2004	ND<3.91202	FALSE	FALSE
	7/12/2004	ND<3.91202	FALSE	FALSE
	1/26/2005	ND<3.91202	FALSE	FALSE
	7/14/2005	ND<3.91202	FALSE	FALSE
	1/25/2006	ND<3.91202	FALSE	FALSE
	7/13/2006	ND<3.91202	FALSE	FALSE
	1/17/2007	2.56495	FALSE	FALSE
	7/31/2007	ND<0.620576	FALSE	FALSE
	1/23/2008	4.06044	FALSE	FALSE
	7/15/2008	2.70805	FALSE	FALSE
	1/28/2009	6.23245	FALSE	FALSE



Lenoir County Closed MSWLF and C&D Landfill
January 28, 2009

WELL #	TOP OF PIPE ELEVATION (FT)	DEPTH TO WATER (FT)	WATER ELEVATION (FT)
MW-1	98.34	19.88	78.46
MW-3	63.87	5.35	58.52
MW-4	68.03	5.42	62.61
MW-6	85.56	12.15	73.41
MW-9	62.40	5.36	57.04
MW-11	78.26	13.57	64.69
MW-12	77.46	16.34	61.12

Municipal Engineering Services Company, P.A.
P.O. BOX 97 GARNER, N.C. 27529 (919) 772-5393
P.O. BOX 349 BOONE, N.C. 27529 (704) 262-1767

GROUNDWATER SAMPLING
MUNICIPAL SOLID WASTE LANDFILL
LENOIR COUNTY
NORTH CAROLINA

DATE	BY	REV.	DESCRIPTION

POTENTIOMETRIC MAP
SINGLE DAY

SCALE: 1"=100'
DATE: 5/29/09
DRWN. BY: M. GERMAN
CHKD. BY: J. PFOHL
PROJECT NUMBER G99004
DRAWING NO. PM
SHEET NO. 1 of 1

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#: 6009 A

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

DATE COLLECTED: 01/28/09
DATE REPORTED : 03/02/09

REVIEWED BY:

PARAMETERS	MDL	SWSL	Trip Blank	Equipment Blank	Analysis Date	Analyst	Method Code
Antimony, ug/l	0.08	6.0		--- U	02/06/09	CMF	EPA200.8
Arsenic, ug/l	0.07	10.0		--- U	02/06/09	CMF	EPA200.8
Barium, ug/l	0.11	100.0		0.3 J	02/06/09	CMF	EPA200.8
Beryllium, ug/l	0.06	1.0		--- U	02/06/09	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0		--- U	02/06/09	CMF	EPA200.8
Cobalt, ug/l	0.03	10.0		--- U	02/06/09	CMF	EPA200.8
Copper, ug/l	0.05	10.0		0.3 J	02/06/09	CMF'	EPA200.8
Total Chromium, ug/l	0.11	10.0		--- U	02/06/09	CMF	EPA200.8
Iron, ug/l	14.0	300.0		--- U	02/05/09	ADD	SM3111B
Manganese, ug/l	0.50	50.0		--- U	02/04/09	LFJ	EPA200.7
Lead, ug/l	0.04	10.0		--- U	02/06/09	CMF	EPA200.8
Mercury, ug/l	0.13	0.20		0.03 J	02/06/09	CMF	EPA200.8
Nickel, ug/l	1.35	50.0		0.1 J	02/06/09	CMF	EPA200.8
Selenium, ug/l	0.14	10.0		--- U	02/06/09	CMF	EPA200.8
Silver, ug/l	0.04	10.0		--- U	02/06/09	CMF	EPA200.8
Thallium, ug/l	0.04	5.0		--- U	02/06/09	CMF	EPA200.8
Vanadium, ug/l	1.21	25.0		--- U	02/06/09	CMF	EPA200.8
Zinc, ug/l	1.86	10.0		--- U	02/06/09	CMF	EPA200.8

J = Between MDL and SWSL, U = Below ALL Quanititation 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 (OLD)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6009 A

ANALYST: MAO
DATE COLLECTED: 01/28/09
DATE ANALYZED: 02/10/09
DATE REPORTED: 03/02/09

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Trip Blank	Equipment Blank
1. Chloromethane	0.18	1.0	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	--- U
3. Bromomethane	0.26	10.0	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U
7. Acetone	1.21	100.0	--- U	--- U
8. Iodomethane	0.12	10.0	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U
10. Methylene Chloride	0.14	1.0	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U	--- U
15. 2-Butanone	0.85	100.0	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U
20. Benzene	0.16	1.0	--- U	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U	--- U
22. Trichloroethene	0.13	1.0	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U
27. Toluene	0.13	1.0	--- U	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U
30. Tetrachloroethene	0.16	1.0	--- U	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U
34. Chlorobenzene	0.13	3.0	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U
37. Xylenes	0.48	5.0	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U
48. Acrolein	5.46	50.0	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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 (OLD)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6009 A

ANALYST: MAO
DATE COLLECTED: 01/28/09
DATE ANALYZED: 02/10/09
DATE REPORTED: 03/02/09

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Trip Blank	Equipment Blank
49. Allyl Chloride	0.17	10.0	--- U	--- U
50. Chloroprene	0.16	20.0	--- U	--- U
51. 1,3-Dichlorobenzene	0.13	5.0	--- U	--- U
52. Dichlorodifluoromethane	0.16	5.0	--- U	--- U
53. 1,3-Dichloropropane	0.12	1.0	--- U	--- U
54. 2,2-Dichloropropane	0.18	15.0	--- U	--- U
55. 1,1-Dichloropropene	0.13	5.0	--- U	--- U
56. Ethyl Methacrylate	0.14	10.0	--- U	--- U
57. Hexachlorobutadiene	0.22	10.0	--- U	--- U
58. Isobutyl Alcohol	5.23	100.0	--- U	--- U
59. Methacrylonitrile	1.64	100.0	--- U	--- U
60. Methyl Methacrylate	0.10	30.0	--- U	--- U
61. Naphthalene	0.13	10.0	--- U	--- U
62. Propionitrile	1.60	150.0	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.11	10.0	--- U	--- U
64. Acetonitrile	5.96	50.0	--- U	8.90 J

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

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

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

CHAIN OF CUSTODY RECORD

CLIENT: 6009 A **Week:** 3

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

(252) 566-5408

DISINFECTION
- [ ] CHLORINE
- [ ] UV
- [ ] NONE
- [ ] _____

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Metals	8260B App. II	8260 App. II 1
						2	2	2
						P	G	G
						A	E	E
Trip Blank					2			
Equipment Blank	012809				3	G	G	G

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

PARAMETERS

A - NONE
B - HNO_3
C - H_2SO_4
D - NAOH
E - HCL
F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:
- [ ] WASTEWATER (NPDES)
- [ ] DRINKING WATER
- [ ] DWQ/GW
- [x] SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
Y N

SAMPLES COLLECTED BY:
(Please Print)
Robert Pleasant

SAMPLES RECEIVED IN LAB AT 0.2 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bob Pleasant	012809	B [illegible]	1/28 2:00
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

Instructions for completing this form are 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.

№ 175911

FORM #5

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#: 6009

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

DATE COLLECTED: 01/28/09
DATE REPORTED : 03/02/09

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #1	Well #3	Well #4	Well #6	Well #9	Analysis Date	Analyst	Method Code
PH (field measurement), Units			4.2	5.4	5.2	4.3	5.3	01/28/09	RJH	SM4500HB
Total Alkalinity, mg/l	1.0	1.0	--- U	4	2	--- U	34	01/29/09	TRB	SM2320B
Chloride, mg/l	5.0	5.0	24	--- U	--- U	--- U	9	02/04/09	MJN	SM4500-CLB
Total Dissolved Residue, mg/l	1.0	1.0	54	42	44	108	109	02/02/09	TRB	SM2540C
Sulfate, mg/l	5.0	250.0	12.5 J	--- U	8.6 J	27.8 J	28.0 J	02/03/09	TRB	SM4500-SO4
Antimony, ug/l	0.08	6.0	0.3 J	0.1 J	--- U	--- U	--- U	02/06/09	CMF	EPA200.8
Arsenic, ug/l	0.07	10.0	--- U	0.41 J	2.9 J	0.1 J	1.8 J	02/06/09	CMF	EPA200.8
Barium, ug/l	0.34	100.0	19.6 J	42.9 J	24.9 J	84.7 J	71.1 J	02/06/09	CMF	EPA200.8
Beryllium, ug/l	0.17	1.0	0.1 J	--- U	--- U	0.1 J	0.1 J	02/06/09	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0	--- U	--- U	--- U	0.2 J	0.1 J	02/06/09	CMF	EPA200.8
Cobalt, ug/l	2.53	10.0	1.0 J	0.2 J	0.7 J	1.0 J	22	02/06/09	CMF	EPA200.8
Copper, ug/l	2.24	10.0	1.2 J	4.8 J	0.9 J	0.7 J	0.4 J	02/06/09	CMF'	EPA200.8
Total Chromium, ug/l	1.38	10.0	0.5 J	0.9 J	0.3 J	--- U	0.4 J	02/06/09	CMF	EPA200.8
Iron, ug/l	14.0	300.0	1216	2038	10285	1904	11410	02/05/09	ADD	SM3111B
Manganese, ug/l	0.50	50.0	11 J	10 J	76	125	1763	02/04/09	LPJ	EPA200.7
Lead, ug/l	0.04	10.0	0.6 J	0.5 J	0.1 J	1.2 J	0.6 J	02/06/09	CMF	EPA200.8
Mercury, ug/l	0.13	0.20	0.05 J	0.05 J	0.04 J	0.04 J	0.12 J	02/06/09	CMF	EPA200.8
Nickel, ug/l	1.35	50.0	1.1 J	0.5 J	0.8 J	2.6 J	3.1 J	02/06/09	CMF	EPA200.8
Selenium, ug/l	0.14	10.0	--- U	--- U	--- U	0.6 J	--- U	02/06/09	CMF	EPA200.8
Silver, ug/l	2.32	10.0	--- U	0.1 J	--- U	--- U	--- U	02/06/09	CMF	EPA200.8
Thallium, ug/l	0.04	5.0	0.1 J	--- U	0.1 J	0.1 J	0.2 J	02/06/09	CMF	EPA200.8
Vanadium, ug/l	1.21	25.0	0.7 J	1.5 J	2.0 J	0.4 J	1..4J	02/06/09	CMF	EPA200.8
Zinc, ug/l	1.86	10.0	11	62	6.2 J	509	8.9 J	02/06/09	CMF	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	91	38	116	179	203	01/28/09	RJH	SM2510B
Temperature, °C			18	12	13	18	16	01/28/09	RJH	SM2550B
Static Water Level, feet			19.88	5.35	5.42	12.15	5.36	01/28/09	RJH	
Well Depth, feet			38.94	15.82	5.92	16.96	21.82	01/28/09	RJH	

J = Between MDL and SWSL, U = Below ALL Quanititation 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#: 6009

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

DATE COLLECTED: 01/28/09
DATE REPORTED : 03/02/09

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #11	Well #12	SW-1	SW-2	Analysis Date	Analyst	Method Code
PH (field measurement), Units			4.5	4.3	6.1	6.6	01/28/09	RJH	SM4500HB
Total Alkalinity, mg/l	1.0	1.0	--- U	--- U			01/29/09	TRB	SM2320B
Chloride, mg/l	5.0	5.0	18	30			02/04/09	MJN	SM4500-CLB
Total Dissolved Residue, mg/l	1.0	1.0	42	79			02/02/09	TRB	SM2540C
Sulfate, mg/l	5.0	250.0	15.5 J	9.8 J			02/03/09	TRB	SM4500-SO4E
Antimony, ug/l	0.08	6.0	--- U	--- U	--- U	0.2 J	02/06/09	CMF	EPA200.8
Arsenic, ug/l	0.07	10.0	0.1 J	0.1 J	0.1 J	0.9 J	02/06/09	CMF	EPA200.8
Barium, ug/l	0.11	100.0	22.9 J	140	40.8 J	45.0 J	02/06/09	CMF	EPA200.8
Beryllium, ug/l	0.06	1.0	0.1 J	0.1 J	--- U	0.1 J	02/06/09	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0	--- U	0.1 J	--- U	0.1 J	02/06/09	CMF	EPA200.8
Cobalt, ug/l	0.03	10.0	0.3 J	1.5 J	0.2 J	0.6 J	02/06/09	CMF	EPA200.8
Copper, ug/l	0.05	10.0	0.8 J	0.8 J	0.5 J	2.8 J	02/06/09	CMF	EPA200.8
Total Chromium, ug/l	0.11	10.0	0.2 J	0.3 J	--- U	2.4 J	02/06/09	CMF	EPA200.8
Iron, ug/l	14.0	300.0	909	488			02/05/09	ADD	SM3111B
Manganese, ug/l	0.50	50.0	17 J	12 J			02/04/09	LFJ	EPA200.7
Lead, ug/l	0.04	10.0	0.2 J	0.2 J	0.1 J	2.1 J	02/06/09	CMF	EPA200.8
Mercury, ug/l	0.13	0.20	0.03 J				02/06/09	CMF	EPA200.8
Mercury, ug/l	0.13	0.20		0.33			02/25/09	ADD	EPA245.1
Nickel, ug/l	0.06	50.0	0.5 J	2.3 J	1.8 J	2.2 J	02/06/09	CMF	EPA200.8
Selenium, ug/l	0.14	10.0	--- U	0.5 J	--- U	--- U	02/06/09	CMF	EPA200.8
Silver, ug/l	0.04	10.0	--- U	0.1 J	--- U	--- U	02/06/09	CMF	EPA200.8
Thallium, ug/l	0.04	5.0	--- U	--- U	--- U	0.1 J	02/06/09	CMF	EPA200.8
Vanadium, ug/l	0.07	25.0	0.8 J	0.5 J	0.1 J	4.3 J	02/06/09	CMF	EPA200.8
Zinc, ug/l	0.04	10.0	3.4 J	4.3 J	3.5 J	15	02/06/09	CMF	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	54	151	103	244	01/28/09	RJH	SM2510B
Temperature, °C			18	19	10	13	01/28/09	RJH	SM2550B
Static Water Level, feet			13.57	16.34			01/28/09	RJH	
Well Depth, feet			35.61	38.39			01/28/09	RJH	

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

Environment 1, Incorporated

Drinking Water ID: 37115
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 (OLD)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6009

ANALYST: MAO
DATE COLLECTED: 01/28/09
DATE REPORTED: 03/02/09

REVIEWED BY: _____

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Date Analyzed: 02/03/09 Well #4	02/03/09 Well #6	02/09/09 Well #9	02/09/09 Well #11	02/09/09 Well #12
1. Chloromethane	0.18	1.0	--- U	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	--- U	--- U	--- U	0.60 J
3. Bromomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U	--- U	--- U	--- U
7. Acetone	1.21	100.0	--- U	--- U	--- U	--- U	--- U
8. Iodomethane	0.12	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.14	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U	--- U	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U	--- U	--- U	--- U	0.20 J
15. 2-Butanone	0.85	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.16	1.0	0.30 J	--- U	--- U	--- U	0.60 J
21. 1,2-Dichloroethane	0.12	1.0	--- U	--- U	--- U	--- U	--- U
22. Trichloroethene	0.13	1.0	--- U	--- U	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U	--- U	--- U	0.40 J	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.13	1.0	4.20	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.16	1.0	--- U	0.30 J	--- U	--- U	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.13	3.0	0.30 J	--- U	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.48	5.0	--- U	--- U	--- U	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U	--- U	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37115
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 (OLD)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6009

ANALYST: MAO
DATE COLLECTED: 01/28/09
DATE REPORTED: 03/02/09

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Date Analyzed: 02/09/09 SW-1	02/09/09 SW-2
1. Chloromethane	0.18	1.0	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	--- U
3. Bromomethane	0.26	10.0	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U
7. Acetone	1.21	100.0	--- U	1.70 J
8. Iodomethane	0.12	10.0	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U
10. Methylene Chloride	0.14	1.0	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U	--- U
15. 2-Butanone	0.85	100.0	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U
20. Benzene	0.16	1.0	--- U	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U	--- U
22. Trichloroethene	0.13	1.0	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U
27. Toluene	0.13	1.0	--- U	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U
30. Tetrachloroethene	0.16	1.0	--- U	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U
34. Chlorobenzene	0.13	3.0	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U
37. Xylenes	0.48	5.0	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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 (OLD)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6009

ANALYST: MAO
DATE COLLECTED: 01/28/09
DATE ANALYZED: 02/10/09
DATE REPORTED: 03/02/09

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Well #1	Well #3
1. Chloromethane	0.18	1.0	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	--- U
3. Bromomethane	0.26	10.0	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U
7. Acetone	1.21	100.0	--- U	--- U
8. Iodomethane	0.12	10.0	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U
10. Methylene Chloride	0.14	1.0	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U	--- U
15. 2-Butanone	0.85	100.0	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U
20. Benzene	0.16	1.0	--- U	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U	--- U
22. Trichloroethene	0.13	1.0	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U
27. Toluene	0.13	1.0	--- U	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U
30. Tetrachloroethene	0.16	1.0	--- U	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U
34. Chlorobenzene	0.13	3.0	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U
37. Xylenes	0.48	5.0	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U
48. Acrolein	5.46	50.0	7.10 J	5.50 J

J = Between MDL and SWSL, U = Below ALL Quanititation 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 (OLD)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6009

ANALYST: MAO
DATE COLLECTED: 01/28/09
DATE ANALYZED: 02/10/09
DATE REPORTED: 03/02/09

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Well #1	Well #3
49. Allyl Chloride	0.17	10.0	--- U	--- U
50. Chloroprene	0.16	20.0	--- U	--- U
51. 1,3-Dichlorobenzene	0.13	5.0	--- U	--- U
52. Dichlorodifluoromethane	0.16	5.0	--- U	--- U
53. 1,3-Dichloropropane	0.12	1.0	--- U	--- U
54. 2,2-Dichloropropane	0.18	15.0	--- U	--- U
55. 1,1-Dichloropropene	0.13	5.0	--- U	--- U
56. Ethyl Methacrylate	0.14	10.0	--- U	--- U
57. Hexachlorobutadiene	0.22	10.0	--- U	--- U
58. Isobutyl Alcohol	5.23	100.0	--- U	--- U
59. Methacrylonitrile	1.64	100.0	--- U	--- U
60. Methyl Methacrylate	0.10	30.0	--- U	--- U
61. Naphthalene	0.13	10.0	--- U	--- U
62. Propionitrile	1.60	150.0	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.11	10.0	--- U	--- U
64. Acetonitrile	5.96	50.0	--- U	--- U

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

Environment 1, Inc.
P.O. Box ~~7085,~~ 714 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6009 **Week:** 3

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

(252) 566-5408

DISINFECTION
- ☐ CHLORINE
- ☐ UV
- ☐ NONE
- ☐ _____

																					CHLORINE NEUTRALIZED AT COLLECTION
												<2			<2	<2	<2	<2	<2		pH CHECK (LAB)
												P	P	P	P	P	P	P	P		CONTAINER TYPE, P/G
												A	A	A	A	A	A	A	A		CHEMICAL PRESERVATION
SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Alkalinity	Chloride	TDS	Sulfate	Metals	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260B App. II	8260 App. II 1	8260 App. II 2		PARAMETERS
Well #1	01/28/09	1100		18	9	G	G	G	G	G	G	G	G	G			G	G	G		
Well #3	01/28/09	0930		12	8	G	G	G	G	G	G	G	G	G			G	G			
Well #4	01/28/09	0945		13	8	G	G	G	G	G	G	G	G	G	G	G					
Well #6	01/28/09	1045		18	8	G	G	G	G	G	G	G	G	G	G	G					
Well #9	01/28/09	0920		16	8	G	G	G	G	G	G	G	G	G	G	G					
Well #11	01/28/09	0910		18	8	G	G	G	G	G	G	G	G	G	G	G					
Well #12	01/28/09	0915		19	8	G	G	G	G	G	G	G	G	G	G	G					
SW-1	01/28/09	0855		10	4	G					G	G	G		G	G					
SW-2	01/28/09	0940		13	4	G					G	G	G		G	G					

A - NONE
B - HNO_3
C - H_2SO_4
D - NAOH
E - HCL
F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:
- ☐ WASTEWATER (NPDES)
- ☐ DRINKING WATER
- ☐ DWQ/GW
- ☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
(Y) N

SAMPLES COLLECTED BY: (Please Print)
R Pope / FOT

SAMPLES RECEIVED IN LAB AT 0.6 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bob Pope	01/28/09	B Jefferson	1/28 2:00
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

Instructions for completing this form are 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.

FORM #5

№ 175912