
**Semi-Annual Water Quality Monitoring Report
with Corrective Action Update**

Prepared for

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

July 2013

Permit Number: 54-03

MESCO Project Number: G13015.0

Submittal Date: December 11, 2013

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



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

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)).
- 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 Active C&D Landfill and Closed Unlined MSWLF	2949 Hodges Farm Road LaGrange, NC 28501	54-03	.1600	July 25, 2013

Environmental Status: (Check all that apply)

- Initial/Background Monitoring Detection Monitoring Assessment Monitoring Corrective Action

Type of data submitted: (Check all that apply)

- Groundwater monitoring data from monitoring wells Methane gas monitoring data
 Groundwater monitoring data from private water supply wells Corrective action data (specify) MNA Analysis For 7 Wells per CAP
 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.

Steven R. Gandy, Ph.D., P.E.

Senior Project Manager

(919) 772-5393

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Affix NC Licensed/ Professional Geologist Seal

Signature

Date

P.O. Box 97, Garner, NC 27529

Facility Representative Address

C-0281

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

Revised 6/2009

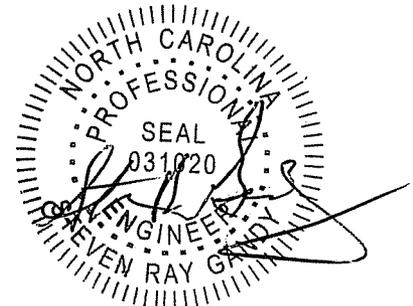


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December 11, 2013

Jaclyne Drummond
 Solid Waste Section
 NC DENR Division of Waste Management
 217 West Jones Street
 Raleigh, NC 27603

Subject: *Semi-Annual Water Quality Monitoring Report with Corrective Action Update*

Lenoir County Active C&D and Closed MSWLF
 Permit No. 54-03
 MESCO Project No. G13015.0
 Event Date: July 25, 2013

Dear Ms. Drummond:

Introduction

On behalf of Lenoir County, Municipal Engineering Services Company, P.A. (MESCO) is pleased to present this *Semi-Annual Water Quality Monitoring Report with Corrective Action Update* for the summer 2013 event performed at the Lenoir County active construction and demolition (C&D) and closed municipal solid waste landfill (MSWLF). NCDENR Solid Waste Rule 15A NCAC 13B.1632 requires that Lenoir County provide this report to the NC Solid Waste Section (SWS) on a semi-annual basis. This report documents the quality of the ground and surface waters during this monitoring event performed on July 25, 2013. Laboratory analytical results indicate that constituents were not detected above applicable regulatory Standards during this event. Although contamination was not identified during this event, corrective action via monitored natural attenuation (MNA) continues to remediate previously detected volatile organic compounds (VOCs) with updated information presented herein.

Background

The Lenoir County Active Construction and Demolition (C&D) Landfill and Closed Unlined Sanitary Municipal Solid Waste Landfill (MSWLF) is located on Hodges Farm Road (SR 1524), La Grange, Lenoir County, North Carolina and operates under permit #54-03. A topographic map showing the facility location is included as **Figure 1**. Prior to operation as a C&D landfill, the site operated as an unlined MSWLF. Part of the southern portion of the MSWLF ceased receiving waste prior to October 1994 and was closed with a 24 inch soil cover. The remainder of the MSWLF closed prior to October 1998, with an 18-inch cohesive soil cap having a permeability of 1 x 10⁻⁵ cm/sec, and 18 inches of erosive layer, as part of the *Lenoir County Transition Plan*. The C&D landfill operates on top of the capped MSWLF, and both units are monitored together. Lenoir County's Subtitle D MSWLF, located on a contiguous property to the southeast is currently monitored separately under permit 54-09.

Water quality has been monitored at this facility on at least a semi-annual basis since 1994 and any data comparisons were made to all historical data believed to be reported. Municipal Engineering Services Company, P.A. (MESCO) submitted an *Assessment and Corrective Action (ACM)* report dated August 30, 2007. MESCO then developed a *Corrective Action Plan (CAP)* (DIN6843) on February 13, 2009. In response to improved water quality and changing geochemical conditions, the CAP was revised on April 30, 2009 (*CAP-Rev. 1*) (DIN 8710). Groundwater remediation using monitored natural attenuation (MNA) was initiated on July 29, 2009 and has continued on a semi-annual basis.

Following establishment of the two year MNA baseline, MESCO completed a *Corrective Action Evaluation Report (CAER)* (DIN 13653) on April 12, 2011. Although the *CAER* demonstrated that water quality conditions have improved and there is adequate evidence that groundwater natural attenuation is occurring, the SWS *CAER* review response (DIN 15524) dated November 22, 2011 denied the proposed discontinuation of corrective action. The *Groundwater and Surface Water Sampling & Analysis Plan (SAP)* Revision 2 (*SAP-Rev.2*) (DIN 16358) was submitted by MESCO on March 23, 2012 at the request of the SWS. The SWS requested *SAP-Rev.2* specifies full Appendix II monitoring of all groundwater samples once every five years which was already performed on June 25, 2012 and continuation of annual Appendix II monitoring of MW-3 which occurred during this event. Groundwater remediation through MNA is required to continue until the SWS authorizes a change.

As specified within rule 15A NCAC 13B.1632(i) and the SWS Environmental Monitoring Report Form, this report contains sampling procedures, field and laboratory results, corrective action update, groundwater and surface water characterization, and findings. Detections compared to Standards tables, hydrogeologic properties table, MNA parameters table, histograms of historical detections, potentiometric map, field parameters, laboratory analytical reports with quality assurance/quality control data and chains-of-custody (C-O-C).

Sampling Procedures

Environment 1 (E1) of Greenville, NC, reportedly performed this monitoring event in accordance with the semi-annual monitoring schedule prescribed by the NC Solid Waste Section (SWS) rules/regulations as promulgated in 15A NCAC 13B.1600. E1 personnel reportedly conducted the sampling utilizing portable monitoring methodology in accordance with the approved Sampling & Analysis Plan (SAP) contained in the *CAP-Rev. 1*. Water and dissolved gas samples were collected from six downgradient groundwater monitoring wells (MW-3, MW-4, MW-6, MW-9, MW-11, MW-12), and the hydraulically upgradient background well (MW-1). Surface water samples were reportedly collected from SW-1 located upstream and SW-3 downstream of the facility. Quality control measures included submittal and analysis of an equipment blank (EB), field blank (FB) and travel blank (TB). Monitoring locations are shown in **Figure 2**.

Static water levels in each well were measured electronically prior to purging. Additional static water level readings were recorded from two supplementary monitoring wells (MW-8 and MW-10) to improve potentiometric contouring. E1 documentation shows samples were transported under C-O-C protocols and analyzed within the hold times specified for each method.

Field Parameter Data

E1 quantified the field parameters static water depth, pH, specific conductivity, temperature, turbidity, oxidation reduction potential (ORP) and dissolved oxygen (DO) which is presented in the laboratory analysis report in **Appendix A**.

Laboratory Results

E1 reportedly analyzed the majority of water samples for the Appendix I constituents listed in 40 CFR 258. Downgradient well MW-3 and background well MW-1 were tested for the full Appendix II constituents listed in 40 CFR 258. Additionally, groundwater samples were analyzed for the MNA performance parameter list specified by SWS. Microseeps Inc. of Pittsburgh, PA performed MNA parameter analysis for volatile fatty acids, methane/ethene/ethane, and dissolved hydrogen. A sampling and analysis table summarizing the locations, targeted constituents, and methods is presented on **Table 1**.

Water samples were analyzed to the laboratory-established Method Detection Limits (MDL), which are at or below current Solid Waste Section Limits (SWSL). **Table 2** summarizes constituents detected in groundwater and surface water samples above the current SWSL, Groundwater Protection Standards (GWP), North Carolina Groundwater Standards (2L) or the applicable Class C North Carolina Surface Water Standards (2B). **Table 3** summarizes Appendix II detections (defined in this report as not also listed in Appendix I) above the MDL.

Quality Control Samples

Six of the sixteen (38%) targeted total metals were detected in low non-quantifiable (“j” qualified) concentrations in the EB including the Appendix II exclusive metal total mercury. The low level detection of total mercury in the EB and background well MW-1 may indicate the detections at the four other locations has been influenced by false positives or high bias attributed to laboratory and or field induced artifact contamination.

Groundwater Samples

Constituents were not detected at any location in concentrations above regulatory 2L or GWP Standards.

Surface Water Samples

Samples collected from upstream (SW-3) and downstream (SW-1) of the MSWLF did not contain target analytes in concentrations above the SWSL or applicable regulatory 2B Standard.

Groundwater Characterization

A single-day potentiometric map of the surficial aquifer was created using groundwater elevation data reported during this event (**Figure 2**). Groundwater flow rates and directions are included in **Table 4**. Flow direction trends in a general northeasterly direction towards Falling Creek. Groundwater flow rates via modified Darcy's equation ranged from approximately 6 ft/yr in MW-3 to 78 ft/yr in MW-11 and averaged 37 ft/yr. Flow directions and gradients are generally consistent with historical observations.

Corrective Action Update

Groundwater remediation measures using MNA per *CAP-Rev. 1* continue to be implemented at the facility. Semi-annual MNA monitoring of seven wells was initiated on July 29, 2009 and has consistently been performed for the full suite of SWS recommended parameters for nine consecutive semi-annual events. The most recent MNA data presented in **Table 5** continues to support previous assertions that geochemical conditions exist in the groundwater that may be considered favorable for continued natural attenuation. Since constituents of concern have not been detected in quantifiable concentrations during the last annual period (two events) screening models were not generated.

Findings

Analytical results of this event indicate that targeted constituents of concern were not detected in levels above applicable regulatory Standards.

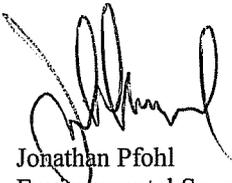
Natural attenuation of the low level contaminants appears to be occurring; therefore, the contingency remediation techniques outlined in the *CAP* are not planned at this time.

Closing

Groundwater remediation and semi-annual water quality monitoring will continue at the facility with the next event scheduled for January 2014. Please contact us by phone at (919) 772-5393 or by email at jpfohl@mesco.com or sgandy@mesco.com.

Sincerely,

MUNICIPAL ENGINEERING SERVICES CO., P.A.



Jonathan Pfohl
Environmental Specialist



Steven R. Gandy, Ph.D., P.E.
Senior Project Manager

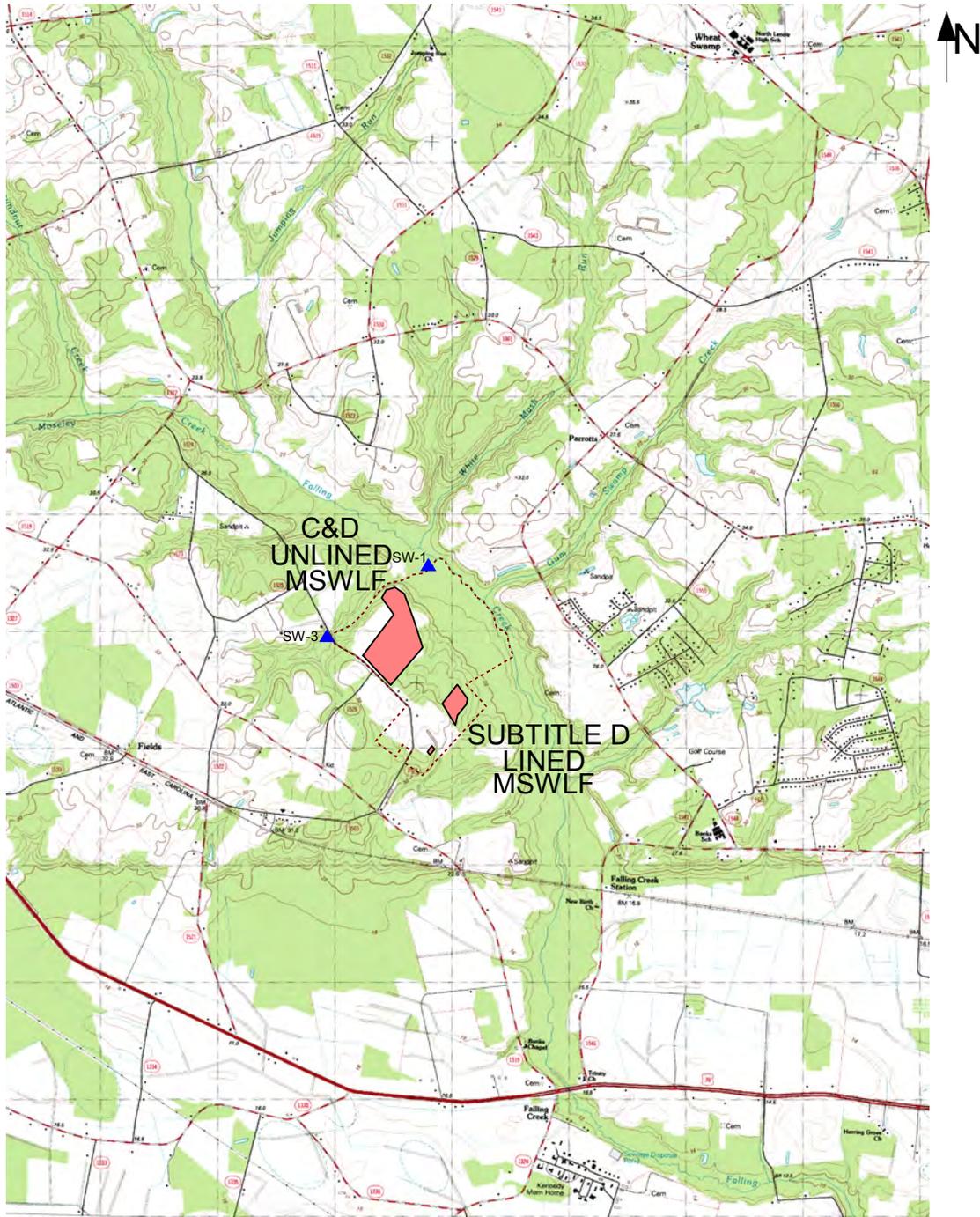
Enclosures

cc: Mr. Tom Miller
Lenoir County

Figures

Topographic Map with Site Location

Lenoir County Landfill Facility

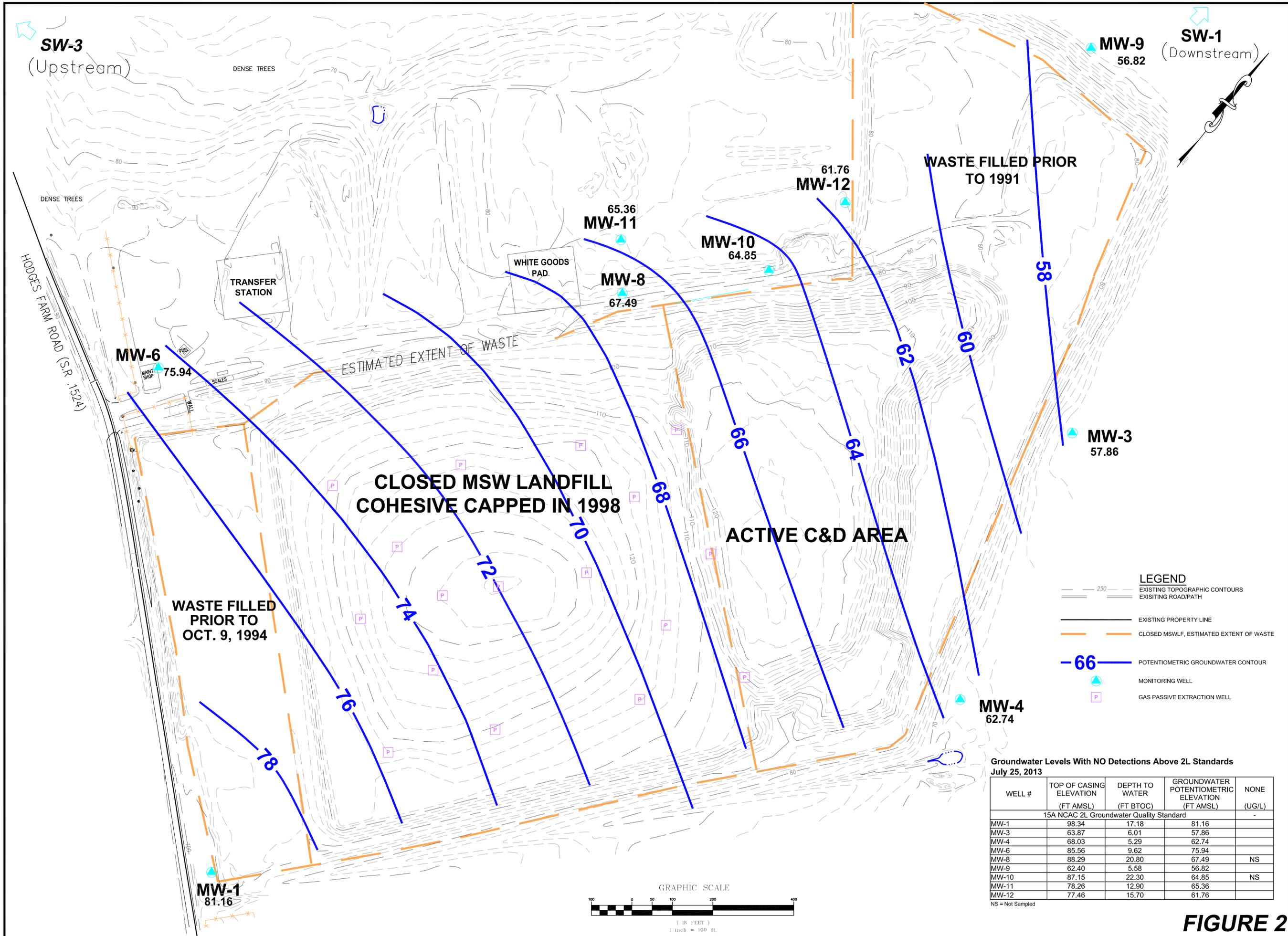


2949 Hodges Farm Rd (SR1524)
 LaGrange, NC 28501
 Lat:35-17-07.4269
 Long:-77-42-32.7453
 Northing:561295.59
 Easting:2385220.32

QUADRANGLE LEGEND

ROAD CLASSIFICATION	
Primary highway, hard surface	Light-duty road, hard or improved surface
Secondary highway, hard surface	Unimproved road
Interstate Route	U. S. Route
State Route	

FIGURE 1



**Groundwater Levels With NO Detections Above 2L Standards
 July 25, 2013**

WELL #	TOP OF CASING ELEVATION (FT AMSL)	DEPTH TO WATER (FT BTOC)	GROUNDWATER POTENTIOMETRIC ELEVATION (FT AMSL)	NONE (UG/L)
15A NCAC 2L Groundwater Quality Standard				
MW-1	98.34	17.18	81.16	-
MW-3	63.87	6.01	57.86	
MW-4	68.03	5.29	62.74	
MW-6	85.56	9.62	75.94	
MW-8	88.29	20.80	67.49	NS
MW-9	62.40	5.58	56.82	
MW-10	87.15	22.30	64.85	NS
MW-11	78.26	12.90	65.36	
MW-12	77.46	15.70	61.76	

NS = Not Sampled

FIGURE 2

Tables

**Table 1
Sampling and Analysis Summary
July 25, 2013**

	Reason Not Sampled	App. I		App. II										MNA													Field Parameter								
		VOCs	Metals, Total	VOCs	Total Metals	Pesticides	Herbicides-Chlorinated	Polychlorinated biphenyl (PCB)	Semivolatile Organics (SVOCs)	Total Cyanide	Sulfide	Mercury, total	VFA	Hydrogen	Methane/Ethane/Ethane	Dissolved CO2	Alkalinity	Sulfate	Sulfide	Chloride	TOC	COD	BOD	Iron, total	Iron, Ferrous	Nitrate	Dissolved Oxygen (DO)	Oxidation Reduction Potential (ORP)	Static Depth to Water	Temperature	Conductivity	pH	Turbidity		
		Lab EPA 8260B	Lab EPA200.8	Lab EPA 8260B	Lab EPA200.8	Lab EPA 8081B	Lab SW8151A	Lab EPA 8081B	Lab EPA 8270C	Lab EPA 9014	Lab SM18.4500-S2D	Lab EPA 200.8	AM23G	AM20GAX	AM20GAX	SM4500CO2C	SM 2320B	SM426C	SM4500-S2D	SM 4500-CLB	SM 5310C	HACH8000	SM5210B	SM3111B	SM3500	EPA 353.2	SM4500OG	SM2580B		SM2550B	SM2510B	SM4500HB	SM2130-B		
MW-1				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
MW-3				x	x																														
MW-4		x	x																																
MW-6		x	x																																
MW-8	E																																		
MW-9		x	x									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
MW-8	E																																		
MW-11		x	x									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
MW-12		x	x									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
SW-1		x	x																								x	x		x	x	x	x	x	
SW-3		x	x																								x	x		x	x	x	x	x	
EB		x	x									x																							
FB		x	x									x																							
TB		x																																	

App I & II = Appendix Lists from current 40 CFR 258

E = Exempt from water quality sampling

Table 2
Detections Above Established SWSL, GWP, 2L or 2B (Appendix I)
July 25, 2013

Sample ID	Parameter Name ¹	Sample Date	Result	Unit	MDL ²	SWSL ³	2L ⁴	2B ⁵	GWP ⁶	Exceedance Amount	Preliminary Cause ⁷
MW-1	Barium, total	7/25/13	115	ug/l	0.06	100	700				
MW-1	Zinc, total	7/25/13	17	ug/l	0.47	10	1000				
MW-3	Zinc, total	7/25/13	24	ug/l	0.47	10	1000				
MW-9	Cobalt, total	7/25/13	15	ug/l	0.02	10	NE		70		
MW-9	Zinc, total	7/25/13	14	ug/l	0.47	10	1000				
MW-12	Barium, total	7/25/13	190	ug/l	0.06	100	700				

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

² MDL = Method Detection Limit

³ SWSL = Solid Waste Section Reporting Limit

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

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

⁶ GWP = Groundwater Protection Standard

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

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

j =The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL),

adjusted for actual sample preparation data and moisture content, where applicable

BOLD = Concentration > 2L, or 2B Standard

Table 3
Detections Above MDL (Appendix II Exclusive)
July 25, 2013

Sample ID	Parameter Name ¹	Sample Date	Result	Unit	MDL ²	SWSL ³	2L ⁴	2B ⁵	GWP ⁶	Exceedance Amount	Preliminary Cause ⁷
MW-1	Tin, total	7/25/13	0.13 j	ug/l	0.06	100	NE		NE		
MW-1	Mercury, total	7/25/13	0.03 j	ug/l	0.01	0.2	1				
MW-3	Mercury, total	7/25/13	0.04 j	ug/l	0.01	0.2	1				
MW-3	Tin, total	7/25/13	0.17 j	ug/l	0.06	100	NE		NE		
MW-4	Mercury, total	7/25/13	0.03 j	ug/l	0.01	0.2	1				
MW-4	Tin, total	7/25/13	0.1 j	ug/l	0.06	100	NE		NE		
MW-11	Mercury, total	7/25/13	0.03 j	ug/l	0.01	0.2	1				
MW-12	Tin, total	7/25/13	0.38 j	ug/l	0.06	100	NE		NE		
MW-12	Mercury, total	7/25/13	0.04 j	ug/l	0.01	0.2	1				
EB	Mercury, total	7/25/13	0.03 j	ug/l	0.01	0.2	1				

¹ Table contains detected App II exclusive constituents (Not found on App I list)

² MDL = Method Detection Limit

³ SWSL = Solid Waste Section Reporting Limit

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

⁵ GWP = Groundwater Protection Standard

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

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

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

BOLD = Concentration >2L, or 2B Standard

Table 4
Hydrologic Properties at Monitoring Well Locations
July 25, 2013

Monitoring Well	Hydraulic Conductivity (cm/sec)	Effective Porosity (%)	Hydraulic Gradient (ft/ft)	Linear Velocity (ft/yr)	Flow Direction	Depth to Groundwater (ft btoc)	Groundwater Potentiometric Elevation (ft amsl)	Screened Interval Lithology
MW-1	4.30E-04	20	0.012	27	N25E	17.18	81.16	Silty Sand
MW-3	1.30E-04	20	0.082	55	N44E	6.01	57.86	Silty Sand
MW-4	5.40E-04	20	0.014	39	N33E	5.29	62.74	Silty Sand
MW-6	-	-	0.036	-	N01W	9.62	75.94	Silty Sand
MW-9	3.80E-04	20	0.008	15	N47E	5.58	56.82	Sandy Clay
MW-11	6.59E-04	20	0.023	78	N15E	12.90	65.36	Sand
MW-12	2.10E-04	20	0.006	6	N09E	15.7	61.76	Sand
Minimum	1.30E-04	20	0.006	6	-	5.29	56.82	-
Average	3.91E-04	20	0.026	37	-	10.33	65.95	-
Maximum	6.59E-04	20	0.082	78	-	17.18	81.16	-

NOTE: 1. Hydraulic conductivity (K) values for MW-1, MW-3, MW-4, MW-6 and MW-9 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 July 25, 2013.

Linear velocity rate (Q) is calculated via modified Darcy's equation:

where

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

K = hydraulic conductivity

n_e = effective porosity

dh = head difference

dl = horizontal distance

Table 5
MNA Parameter Summary
July 25, 2013

Parameters	Method	MDL*	Units	MW-1	MW-3	MW-4	MW-6	MW-9	MW-11	MW-12
				07/25/13	07/25/13	07/25/13	07/25/13	07/25/13	07/25/13	07/25/13
VFA – Acetic Acid	AM23G	5	ug/L	260	38	36	44	88	23	120
VFA – Butyric Acid	AM23G	11	ug/L	62	<11	<11	61	<11	<11	<11
VFA – Hexanoic Acid	AM23G	220	ug/L	<220	<220	<220	<220	<220	<220	<220
VFA – i-Hexanoic Acid	AM23G	29	ug/L	<29	<29	<29	<29	<29	<29	<29
VFA – i-Pentanoic Acid	AM23G	12	ug/L	<9	<9	<9	<9	<9	<9	<9
VFA – Lactic Acid	AM23G	9	ug/L	82	53	54	72	77	70	420
VFA – Pentaonic Acid	AM23G	11	ug/L	<11	<11	<11	<11	<11	<11	<11
VFA – Propionic Acid	AM23G	8	ug/L	40	21	23	21	22	<8	25
VFA – Pyruvic Acid	AM23G	14	ug/L	<14	<14	<14	<14	<14	<14	<14
Hydrogen	AM20GAX	0.05	nM	0.77	0.83	1	1	0.77	0.86	1.1
Methane	AM20GAX	0.002	ug/L	0.03	4.5	720	1300	66	970	570
Ethene	AM20GAX	0.006	ug/L	0.011	0.012	0.012	0.008	<0.006	0.016	0.120
Ethane	AM20GAX	0.002	ug/L	0.0021	0.0025	0.0049	0.0220	0.0160	0.0500	0.0150
CO2-Dissolved	SM4500CO2C	1000	ug/L	37000	78000	175000	232000	148000	82000	519000
Alkalinity	SM 2320B	1000	ug/L	<1000	7000	11000	6000	24000	1000	<1000
Sulfate	SM426C	5000	ug/L	<5000	<5000	<5000	33300	15800	<5000	48000
Sulfide	SM4500-S2D	100	ug/L	<100	<100	251	<100	<100	<100	<100
Chloride	SM 4500-CLB	5000	ug/L	14000	<5000	<5000	<5000	23000	7000	72000
TOC	SM 5310C	300	ug/L	<300	1830	6430	1380	2500	<300	11270
COD	HACH8000	20000	ug/L	<20000	<20000	25000	<20000	<20000	<20000	44000
BOD	SM5210B	2000	ug/L	<2000	<2000	<2000	<2000	<2000	<2000	<2000
Iron, total	SM3111B	13.6	ug/L	334	1085	4380	913	2733	<13.6	<13.6
Iron, Ferrous	3500FEB-97	50	ug/L	<50	<50	4080	350	1901	<50	<50
Nitrate	EPA 353.2	30	ug/L	13080	<30	<30	710	4230	1760	390
Temperature	SM2550B	100	Degrees C	18	21	21	20	20	19	21
ORP	SM2580B	-900	mV	445.2	185.9	-104.9	343.3	171	374.5	374.8
DO	SM4500OG	0	ug/L	5480	1300	780	440	490	1480	1760
pH	SM4500HB	0.00	SU	2.1	5	4.7	4.3	5.1	4	4
Specific Conductance	SM2510B	1	uMhos	170	48	69	134	228	61	407
Turbidity	SM2130B	1.00	NTU	4.89	17.1	4.6	4.26	2.76	3.84	1.59

Notes:

VFA = Volatile Fatty Acids

MDL* = Lowest Method Detection Limit for Lab Parameters or Lowest Field Measurement Possible

Constituents Below Quantization Limit are shown as <MDL value

Appendix A
Laboratory Analysis Report
Field Analysis Report
Chains of Custody

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: 07/25/13
DATE REPORTED : 09/11/13

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-1	MW-3	MW-4	MW-6	MW-8	Analysis Date	Method Analyst Code	
PH (field measurement), Units			2.1	5.0	4.7	4.3		07/25/13BF	4500HB-00	
BOD, mg/l	2.0	2.0	--- U	--- U	--- U	--- U		07/26/13TRB	5210B-01	
COD, mg/l	20.0	20.0	--- U	--- U	25	--- U		07/30/13TRB	H8000-79	
Nitrate Nitrogen as N, mg/l	0.03	10.0	13.08	--- U	--- U	0.71 J		07/26/13ANO	353.2 R2-93	
Total Organic Carbon, mg/l	0.30	1.0	--- U	1.83	6.43	1.38		07/31/13SEJ	5310C-00	
Total Alkalinity (to pH 4.5), mg/l	1.0	1.0	--- U	7	11	6		07/26/13TRB	2320B-97	
Chloride, mg/l	5.0	5.0	14	--- U	--- U	--- U		07/29/13HMB	4500CLB-97	
Cyanide, ug/l	5.0	10.0	--- U	--- U				07/26/13SEJ	4500CNE-99	
Sulfate, mg/l	5.0	250.0	--- U	--- U	--- U	33.3 J		07/29/13TRB	4500S042E97	
Antimony, ug/l	0.02	6.0	0.09 J	0.28 J	0.18 J	0.06 J		08/15/13LFJ	EPA200.8	
Arsenic, ug/l	0.05	10.0	--- U	--- U	1.0 J	0.17 J		08/15/13LFJ	EPA200.8	
Barium, ug/l	0.06	100.0	115	41.3 J	22.0 J	39.1 J		08/14/53LFJ	EPA200.8	
Beryllium, ug/l	0.03	1.0	0.20 J	0.05 J	0.04 J	0.06 J		08/15/13LFJ	EPA200.8	
Cadmium, ug/l	0.05	1.0	0.13 J	0.06 J	0.46 J	0.10 J		08/15/13LFJ	EPA200.8	
Cobalt, ug/l	0.02	10.0	3.2 J	0.36 J	0.43 J	0.37 J		08/15/13LFJ	EPA200.8	
Copper, ug/l	0.06	10.0	1.2 J	0.58 J	0.52 J	0.68 J		08/15/13LFJ	EPA200.8	
Total Chromium, ug/l	0.04	10.0	0.07 J	0.64 J	0.56 J	--- U		08/15/13LFJ	EPA200.8	
Iron, ug/l	13.6	300.0	334	1085	4380	913		08/14/13ADD	3111B-99	
Lead, ug/l	0.02	10.0	1.3 J	0.32 J	0.23 J	0.60 J		08/15/13LFJ	EPA200.8	
Mercury, ug/l	0.01	0.20	0.03 J	0.04 J	0.03 J	--- U		08/07/13ADD	245.1 R3-94	
Nickel, ug/l	0.45	50.0	4.2 J	0.84 J	0.70 J	0.83 J		08/15/13LFJ	EPA200.8	
Selenium, ug/l	0.06	10.0	0.12 J	--- U	0.08 J	0.25 J		08/15/13LFJ	EPA200.8	
Silver, ug/l	0.03	10.0	--- U	0.03 J	--- U	--- U		08/15/13LFJ	EPA200.8	
Thallium, ug/l	0.02	5.5	0.12 J	0.06 J	0.05 J	0.04 J		08/15/13LFJ	EPA200.8	
Tin, ug/l	0.06	100.0	0.13 J	0.17 J	0.10 J	--- U		08/15/13LFJ	EPA200.8	
Vanadium, ug/l	0.07	25.0	0.31 J	0.73 J	1.7 J	0.19 J		08/14/13LFJ	EPA200.8	
Zinc, ug/l	0.47	10.0	17	24	7.5 J	8.8 J		08/15/13LFJ	EPA200.8	
Sulfide, ug/l	100	1000	--- U	--- U	251 J	--- U		07/30/13LFJ	4500S2D-00	
Conductivity (at 25c), uMhos/cm	1.0	1.0	170	48	69	134		07/25/13BF	2510B-97	
Dissolved Oxygen, mg/l	0.1	0.1	5.48	1.30	0.78	0.44		07/25/13BF	4500OG-01	
Temperature, °C			18	21	21	20		07/25/13BF	2550B-00	
Iron, Ferrous, ug/l	50.00	300.0	--- U	--- U	4080	350		07/26/13SEJ	3500FRB-97	
Static Water Level, feet			17.18	6.01	5.29	9.62	20.80		07/25/13BF	
Well Depth, feet			38.94	15.82	15.84	16.96			07/25/13BF	
Carbon Dioxide, mg/l	1.0	1.0	37	78	175	232		07/26/13TRB	4500CO2C	
ORP, mv			+445.2	+185.9	-104.9	+343.3		07/25/13BF	2580B	
Turbidity (Field), NTU	1.0	1.0	4.89	17.1	4.60	4.26		07/25/13BF	2130B-01	

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

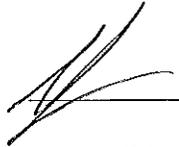
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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

ID#: 6009

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

DATE COLLECTED: 07/25/13
DATE REPORTED : 09/11/13

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-9	MW-10	MW-11	MW-12	Analysis	Method	
							Date	Analyst	Code
PH (field measurement), Units			5.1		4.0	4.0	07/25/13BF	4500HB-00	
BOD, mg/l	2.0	2.0	---	U	---	U	07/26/13TRB	5210B-01	
COD, mg/l	20.0	20.0	---	U	---	U	44 07/30/13TRB	H8000-79	
Nitrate Nitrogen as N, mg/l	0.03	10.0	4.23	J	1.76	J	0.39 J 07/26/13ANO	353.2 R2-93	
Total Organic Carbon, mg/l	0.30	1.0	2.50		---	U	11.27 07/31/13SEJ	5310C-00	
Total Alkalinity (to pH 4.5), mg/l	1.0	1.0	24		1.0	---	U 07/26/13TRB	2320B-97	
Chloride, mg/l	5.0	5.0	23		7	72	07/29/13HMB	4500CLB-97	
Sulfate, mg/l	5.0	250.0	15.8	J	---	U	48.0 J 07/29/13TRB	4500SO42E97	
Antimony, ug/l	0.02	6.0	0.06	J	0.08	J	0.04 J 08/15/13LFF	EPA200.8	
Arsenic, ug/l	0.05	10.0	0.38	J	---	U	0.30 J 08/15/13LFF	EPA200.8	
Barium, ug/l	0.06	100.0	87.5	J	35.5	J	190 08/14/53LFF	EPA200.8	
Beryllium, ug/l	0.03	1.0	0.11	J	0.09	J	0.30 J 08/15/13LFF	EPA200.8	
Cadmium, ug/l	0.05	1.0	0.14	J	0.10	J	0.52 J 08/15/13LFF	EPA200.8	
Cobalt, ug/l	0.02	10.0	15		0.28	J	4.7 J 08/15/13LFF	EPA200.8	
Copper, ug/l	0.06	10.0	0.59	J	1.1	J	0.90 J 08/15/13LFF	EPA200.8	
Total Chromium, ug/l	0.04	10.0	---	U	0.07	J	0.17 J 08/15/13LFF	EPA200.8	
Iron, ug/l	13.6	300.0	2733		---	U	---	U 08/14/13ADD	3111B-99
Lead, ug/l	0.02	10.0	0.06	J	0.12	J	0.06 J 08/15/13LFF	EPA200.8	
Mercury, ug/l	0.01	0.20	0.59		0.03	J	0.04 J 08/07/13ADD	245.1 R3-94	
Nickel, ug/l	0.45	50.0	4.4	J	1.0	J	6.3 J 08/15/13LFF	EPA200.8	
Selenium, ug/l	0.06	10.0	0.35	J	---	U	2.1 J 08/15/13LFF	EPA200.8	
Silver, ug/l	0.03	10.0	---	U	0.04	J	---	U 08/15/13LFF	EPA200.8
Thallium, ug/l	0.02	5.5	0.17	J	0.20	J	0.05 J 08/15/13LFF	EPA200.8	
Tin, ug/l	0.06	100.0	---	U	---	U	0.38 J 08/15/13LFF	EPA200.8	
Vanadium, ug/l	0.07	25.0	0.14	J	0.11	J	0.15 J 08/14/13LFF	EPA200.8	
Zinc, ug/l	0.47	10.0	14		7.1	J	6.8 J 08/15/13LFF	EPA200.8	
Sulfide, ug/l	100	1000	---	U	---	U	---	U 07/30/13LFF	4500S2D-00
Conductivity (at 25c), uMhos/cm	1.0	1.0	228		61		407 07/25/13BF	2510B-97	
Dissolved Oxygen, mg/l	0.1	0.1	0.49		1.48		1.76 07/25/13BF	4500OG-01	
Temperature, °C			20		19		21 07/25/13BF	2550B-00	
Iron, Ferrous, ug/l	50.00	300.0	1901		---	U	---	U 07/26/13SEJ	3500FEB-97
Static Water Level, feet			5.58	22.30	12.90		15.70 07/25/13BF		
Well Depth, feet			21.82		35.61		38.39 07/25/13BF		
Carbon Dioxide, mg/l	1.0	1.0	148		82		519 07/26/13TRB	4500CO2C	
ORP, mv			+171.0		+374.5		+374.8 07/25/13BF	2580B	
Turbidity (Field), NTU	1.0	1.0	2.76		3.84		1.59 07/25/13BF	2130B-01	

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

CLIENT ID: 6009
ANALYST: CHS
DATE COLLECTED: 07/25/13
DATE EXTRACTED: 07/26/13
DATE ANALYZED: 07/28/13
DATE REPORTED: 09/11/13

REVIEWED BY: 

PESTICIDES AND PCB'S
EPA METHOD 8081B R2 (07)

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3
1. Aldrin	0.029	0.05	--- U	--- U
2. Alpha-BHC	0.032	0.05	--- U	--- U
3. Beta-BHC	0.031	0.05	--- U	--- U
4. Delta-BHC	0.030	0.05	--- U	--- U
5. Gamma-BHC (Lindane)	0.032	0.05	--- U	--- U
6. Chlordane	0.320	0.50	--- U	--- U
7. 4,4-DDD	0.051	0.10	--- U	--- U
8. 4,4-DDE	0.049	0.10	--- U	--- U
9. 4,4-DDT	0.052	0.10	--- U	--- U
10. Dieldrin	0.042	0.075	--- U	--- U
11. Endosulfan I	0.056	0.10	--- U	--- U
12. Endosulfan II	0.046	0.10	--- U	--- U
13. Endosulfan Sulfate	0.072	0.10	--- U	--- U
14. Endrin	0.053	0.10	--- U	--- U
15. Endrin Aldehyde	0.068	0.10	--- U	--- U
16. Heptachlor	0.039	0.05	--- U	--- U
17. Heptachlor Epoxide	0.042	0.075	--- U	--- U
18. Methoxychlor	0.530	1.00	--- U	--- U
19. Pcb's (Aroclors)	0.500	2.00	--- U	--- U
20. Toxaphene	0.690	1.50	--- U	--- U

Environment 1, Incorporated

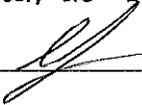
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P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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

CLIENT ID: 6009
ANALYST: CHS
DATE COLLECTED: 07/25/13
DATE EXTRACTED: 07/26/13
DATE ANALYZED: 07/29/13
DATE REPORTED: 09/11/13

REVIEWED BY:  _____

LANDFILL APPENDIX II EPA METHOD 8151A R1 (96)

PARAMETERS, ug/l			MW-1	MW-3
	MDL	SWSL		
1. 2,4-D	0.36	2.0	--- U	--- U
2. Dinoseb	0.54	1.0	--- U	--- U
3. 2,4,5-TP	0.42	2.0	--- U	--- U
4. 2,4,5-T	0.47	2.0	--- U	--- U

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

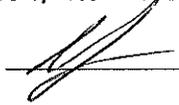
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
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CLIENT: LENOIR CO. LANDFILL (OLD)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6009
ANALYST: MAO
DATE COLLECTED: 07/25/13
DATE ANALYZED: 07/30/13
DATE REPORTED: 09/11/13

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1 (96)

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

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Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

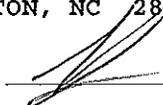
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COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6009
ANALYST: CHS
DATE COLLECTED: 07/25/13
DATE EXTRACTED: 07/26/13
DATE ANALYZED: 07/30/13
DATE REPORTED: 09/11/13

Page: 1

REVIEWED BY: 

SEMI-VOLATILE ORGANICS EPA METHOD 8270D R4 (07)

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3
1. Acenaphthene	2.66	10.0	--- U	--- U
2. Acenaphthylene	2.60	10.0	--- U	--- U
3. Anthracene	2.97	10.0	--- U	--- U
4. Benzo[a]anthracene	4.16	10.0	--- U	--- U
5. Benzo[b]fluoranthene	3.32	10.0	--- U	--- U
6. Benzo[k]fluoranthene	4.23	10.0	--- U	--- U
7. Benzo[g,h,i]perylene	2.61	10.0	--- U	--- U
8. Benzo[a]pyrene	3.27	10.0	--- U	--- U
9. 4-Bromophenyl Phenyl Ether	2.63	10.0	--- U	--- U
10. Butyl Benzyl Phthalate	5.78	10.0	--- U	--- U
11. Bis-(2-Chloroethoxy) Methane	3.14	10.0	--- U	--- U
12. Bis-(2-Chloroethyl) Ether	2.58	10.0	--- U	--- U
13. Bis-(2-Chloroisopropyl) Ether	2.58	10.0	--- U	--- U
14. 2-Chloronaphthalene	2.17	10.0	--- U	--- U
15. 4-Chlorophenyl Phenyl Ether	2.42	10.0	--- U	--- U
16. Chrysene	4.04	10.0	--- U	--- U
17. Dibenzo[a,h]anthracene	2.78	10.0	--- U	--- U
18. Di-N-Butyl Phthalate	3.09	10.0	--- U	--- U
19. Dimethyl Phthalate	3.78	10.0	--- U	--- U
20. Diethyl Phthalate	3.92	10.0	--- U	--- U
21. 2,4-Dinitrotoluene	3.95	10.0	--- U	--- U
22. 2,6-Dinitrotoluene	3.88	10.0	--- U	--- U
23. Di-N-Octyl Phthalate	2.81	10.0	--- U	--- U
24. Bis-(2-Ethylhexyl) Phthalate	9.97	15.0	--- U	--- U
25. Fluoranthene	3.92	10.0	--- U	--- U
26. Fluorene	2.95	10.0	--- U	--- U
27. Hexachlorobenzene	2.61	10.0	--- U	--- U
28. Hexachlorocyclopentadiene	4.16	10.0	--- U	--- U
29. Indeno[1,2,3-Cd]pyrene	2.91	10.0	--- U	--- U
30. Isophorone	3.74	10.0	--- U	--- U
31. Nitrobenzene	2.85	10.0	--- U	--- U
32. N-Nitrosodimethylamine	4.25	10.0	--- U	--- U
33. N-Nitrosodiphenylamine	3.95	10.0	--- U	--- U
34. N-Nitrosodi-N-Propylamine	4.06	10.0	--- U	--- U
35. Phenanthrene	3.24	10.0	--- U	--- U
36. Pyrene	3.63	10.0	--- U	--- U
37. 4-Chloro-3-Methylphenol	3.79	20.0	--- U	--- U
38. 2-Chlorophenol	2.75	10.0	--- U	--- U
39. O-Cresol	3.68	10.0	--- U	--- U
40. P-Cresol	4.12	10.0	--- U	--- U
41. 2,4-Dichlorophenol	5.19	10.0	--- U	--- U
42. 2,6-Dichlorophenol	4.89	10.0	--- U	--- U
43. 2,4-Dimethylphenol	3.21	10.0	--- U	--- U
44. 4,6-Dinitro-2-Methylphenol	4.77	50.0	--- U	--- U
45. 2,4-Dinitrophenol	4.37	50.0	--- U	--- U
46. Ethyl Methanesulfonate	5.26	20.0	--- U	--- U
47. Methyl Methanesulfonate	4.92	10.0	--- U	--- U
48. 2-Nitrophenol	3.64	10.0	--- U	--- U

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

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

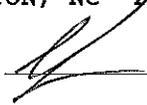
PHONE (252) 756-6208
FAX (252) 756-0633

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

CLIENT ID: 6009

ANALYST: CHS
DATE COLLECTED: 07/25/13
DATE EXTRACTED: 07/26/13
DATE ANALYZED: 07/30/13
DATE REPORTED: 09/11/13

Page: 2

REVIEWED BY: 

SEMI-VOLATILE ORGANICS
EPA METHOD 8270D R4 (07)

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3
49. 4-Nitrophenol	3.17	50.0	--- U	--- U
50. Pentachlorophenol	5.33	25.0	--- U	--- U
51. Phenol	1.86	10.0	--- U	--- U
52. 2,3,4,6-Tetrachlorophenol	3.12	10.0	--- U	--- U
53. 2,4,5-Trichlorophenol	4.17	10.0	--- U	--- U
54. 2,4,6-Trichlorophenol	3.84	10.0	--- U	--- U
55. Acetophenone	2.89	10.0	--- U	--- U
56. 2-Acetylaminofluorene	3.98	20.0	--- U	--- U
57. 4-Aminobiphenyl	4.12	20.0	--- U	--- U
58. Benzyl Alcohol	4.47	20.0	--- U	--- U
59. 4-Chloroaniline	3.36	20.0	--- U	--- U
60. Chlorobenzilate	5.12	10.0	--- U	--- U
61. Diallylate	2.98	10.0	--- U	--- U
62. Dibenzofuran	4.28	10.0	--- U	--- U
63. 3,3-Dichlorobenzidine	4.22	20.0	--- U	--- U
64. Dimethoate	3.98	20.0	--- U	--- U
65. P-Dimethylaminoazobenzene	2.89	10.0	--- U	--- U
66. 7,12-Dimethylbenz[alanthracene	5.26	10.0	--- U	--- U
67. 3,3-Dimethylbenzadine	3.21	10.0	--- U	--- U
68. 1,3-Dinitrobenzene	2.89	20.0	--- U	--- U
69. Diphenylamine	5.10	10.0	--- U	--- U
70. Disulfoton	4.28	10.0	--- U	--- U
71. Pamphur	3.98	20.0	--- U	--- U
72. Hexachloropropene	4.31	10.0	--- U	--- U
73. Isosafrole	2.88	10.0	--- U	--- U
74. Kepone	2.78	20.0	--- U	--- U
75. Methapyrilene	3.54	100.0	--- U	--- U
76. 3-Methylchloroanthrene	4.21	10.0	--- U	--- U
77. 2-Methylnaphthalene	3.79	10.0	--- U	--- U
78. Methyl Parathion	4.32	10.0	--- U	--- U
79. m-Cresol	3.81	10.0	--- U	--- U
80. 1,4-Naphthoquinone	4.00	10.0	--- U	--- U
81. 1-Naphthylamine	5.61	10.0	--- U	--- U
82. 2-Naphthylamine	4.62	10.0	--- U	--- U
83. 2-Nitroaniline	3.61	50.0	--- U	--- U
84. 3-Nitroaniline	4.81	50.0	--- U	--- U
85. 4-Nitroaniline	4.22	20.0	--- U	--- U
86. 5-Nitro-O-Toluidine	4.01	10.0	--- U	--- U
87. N-Nitrosodi-n-butylamine	3.63	10.0	--- U	--- U
88. N-Nitrosodiethylamine	3.83	20.0	--- U	--- U
89. N-Nitrosomethylethylamine	3.83	10.0	--- U	--- U
90. N-Nitrosopiperidine	5.19	20.0	--- U	--- U
91. N-Nitrosopyrrolidine	2.89	10.0	--- U	--- U
92. Parathion	3.12	10.0	--- U	--- U
93. Pentachlorobenzene	3.92	10.0	--- U	--- U
94. Pentachloronitrobenzene	3.71	20.0	--- U	--- U
95. Phenacetin	4.41	20.0	--- U	--- U
96. 1,4 Benzenediamine	2.99	10.0	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

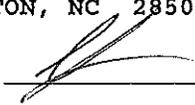
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GREENVILLE, N.C. 27835-7085

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: CHS
DATE COLLECTED: 07/25/13
DATE EXTRACTED: 07/26/13
DATE ANALYZED: 07/30/13
DATE REPORTED: 09/11/13

Page: 3

REVIEWED BY: 

SEMI-VOLATILE ORGANICS EPA METHOD 8270D R4 (07)

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3
97. Phorate	3.86	10.0	--- U	--- U
98. Pronamide	3.69	10.0	--- U	--- U
99. Safrole	4.12	10.0	--- U	--- U
100. 1,2,4,5-Tetrachlorobenzene	5.01	10.0	--- U	--- U
101. Thionazin	4.62	20.0	--- U	--- U
102. O-Toluidine	4.11	10.0	--- U	--- U
103. 1,3,5-Trinitrobenzene	3.98	10.0	--- U	--- U
104. 0,0,0-Triethyl Phosphorothioate	3.61	10.0	--- U	--- U
105. Hexachloroethane	1.49	10.0	--- U	--- U
106. Isodrin	3.11	20.0	--- U	--- U

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

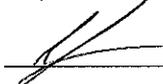
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GREENVILLE, N.C. 27835-7085

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: 07/25/13
DATE ANALYZED: 07/30/13
DATE REPORTED: 09/11/13

Page: 1

REVIEWED BY: 

LANDFILL APPENDIX II EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3
1. Chloromethane	0.77	1.0	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U
21. 1,2-Dichloroethane	0.21	1.0	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U
25. Cis-1,3-Dichloropropane	0.24	1.0	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U
28. trans-1,3-Dichloropropane	0.28	1.0	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U
48. Acrolein	40.57	53.0	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

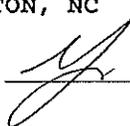
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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

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

CLIENT ID: 6009
ANALYST: MAO
DATE COLLECTED: 07/25/13
DATE ANALYZED: 07/30/13
DATE REPORTED: 09/11/13

Page: 2

REVIEWED BY: 

LANDFILL APPENDIX II EPA METHOD 8260B R1 (96)

PARAMETERS, ug/l			MW-1	MW-3
	MDL	SWSL		
49. Allyl Chloride	0.20	10.0	--- U	--- U
50. Chloroprene	0.21	20.0	--- U	--- U
51. 1,3-Dichlorobenzene	0.41	5.0	--- U	--- U
52. Dichlorodifluoromethane	0.51	5.0	--- U	--- U
53. 1,3-Dichloropropane	0.28	1.0	--- U	--- U
54. 2,2-Dichloropropane	0.17	15.0	--- U	--- U
55. 1,1-Dichloropropene	0.22	5.0	--- U	--- U
56. Ethyl Methacrylate	0.16	10.0	--- U	--- U
57. Hexachlorobutadiene	0.57	10.0	--- U	--- U
58. Isobutyl Alcohol	12.80	100.0	--- U	--- U
59. Methacrylonitrile	1.93	100.0	--- U	--- U
60. Methyl Methacrylate	0.25	30.0	--- U	--- U
61. Naphthalene	0.47	10.0	--- U	--- U
62. Propionitrile	3.26	150.0	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.50	10.0	--- U	--- U
64. Acetonitrile	36.29	55.0	--- U	--- U

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

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

CLIENT: 6009 Week: 33

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

(252) 566-4194

CHAIN OF CUSTODY RECORD

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	DISINFECTION		Field pH	BOD	COD	Nitrate	TOC	Alkalinity	Chloride	Cyanide	Sulfate	Metals	Sulfide	Conductivity	DO	Temperature	Ferrous Iron	Field Parameter	PARAMETERS	
	DATE	TIME				CHLORINE	UV																		
MW-1	7-25-13	0950	18	19	<input type="checkbox"/>	<input type="checkbox"/>																			
MW-3	7-25-13	1125	21	18	<input type="checkbox"/>	<input type="checkbox"/>																			
MW-4	7-25-13	1210	21	13	<input type="checkbox"/>	<input type="checkbox"/>																			
MW-6	7-25-13	1520	20	13	<input type="checkbox"/>	<input type="checkbox"/>																			
MW-8	7-25-13			1	<input type="checkbox"/>	<input type="checkbox"/>																			
MW-9	7-25-13	1255	21	13	<input type="checkbox"/>	<input type="checkbox"/>																			
MW-10	7-25-13			1	<input type="checkbox"/>	<input type="checkbox"/>																			
MW-11	7-25-13	1446	19	13	<input type="checkbox"/>	<input type="checkbox"/>																			
MW-12	7-25-13	1350	21	13	<input type="checkbox"/>	<input type="checkbox"/>																			
RELINQUISHED BY (SIG.) <i>Tom Bobby</i>			DATE/TIME	7-25-13	1630	RECEIVED BY (SIG.) <i>[Signature]</i>	DATE/TIME	7-25-13	1429	COMMENTS:															
RELINQUISHED BY (SIG.)			DATE/TIME			RECEIVED BY (SIG.)	DATE/TIME		SAMPLER MUST BE PLACED IN A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED.																
RELINQUISHED BY (SIG.)			DATE/TIME			RECEIVED BY (SIG.)	DATE/TIME		SAMPLER MUST BE PLACED IN A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED.																

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.

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

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
 N

SAMPLES COLLECTED BY: *Bobby / Tom*

SAMPLES RECEIVED IN LAB AT 1.2 °C



Microseeps, Inc
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

SAMPLE SUMMARY

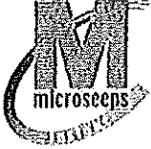
Workorder: 9691 LENOIR CO / 6009

Lab ID	Sample ID	Matrix	Date Collected	Date Received
96910001	MW1	Water	7/25/2013 09:50	7/27/2013 11:00
96910002	MW1	Bubble Strip	7/25/2013 09:50	7/27/2013 11:00
96910003	MW3	Water	7/25/2013 11:25	7/27/2013 11:00
96910004	MW3	Bubble Strip	7/25/2013 11:25	7/27/2013 11:00
96910005	MW4	Water	7/25/2013 12:10	7/27/2013 11:00
96910006	MW4	Bubble Strip	7/25/2013 12:10	7/27/2013 11:00
96910007	MW8	Water	7/25/2013 15:20	7/27/2013 11:00
96910008	MW6	Bubble Strip	7/25/2013 15:20	7/27/2013 11:00
96910009	MW9	Water	7/25/2013 12:55	7/27/2013 11:00
96910010	MW9	Bubble Strip	7/25/2013 12:55	7/27/2013 11:00
96910011	MW11	Water	7/25/2013 14:40	7/27/2013 11:00
96910012	MW11	Bubble Strip	7/25/2013 14:40	7/27/2013 11:00
96910013	MW12	Water	7/25/2013 13:50	7/27/2013 11:00
96910014	MW12	Bubble Strip	7/25/2013 13:50	7/27/2013 11:00

CERTIFICATE OF ANALYSIS

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Microseeps, Inc
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Pittsburgh, PA 15236
Phone: (412) 826-5245
Fax: (412) 826-3433

PROJECT SUMMARY

Workorder: 8691 LENOIR CO / 8009

Batch Comments

Batch: DISG/3180 - AM20GAX Bubble Strip QC

The percent recovery for the laboratory control sample was above laboratory control limits. Analytes Oxygen. Results associated to the analytes in samples may be bias high.

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910001
 Sample ID: MW1

Date Received: 7/27/2013 11:00 Matrix: Water
 Date Collected: 7/25/2013 09:50

Parameters	Results Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
EDonors - MICR								
Analysis Desc: AM23G Analytical Method: AM23G								
Lactic Acid	0.082J mg/l	0.10	0.013	1		8/1/2013 22:02	KB	
Acetic Acid	0.26 mg/l	0.070	0.0050	1		8/1/2013 22:02	KB	
Propionic Acid	0.040J mg/l	0.050	0.0080	1		8/1/2013 22:02	KB	
Butyric Acid	0.062 mg/l	0.050	0.011	1		8/1/2013 22:02	KB	
Pyruvic Acid	0.014U mg/l	0.15	0.014	1		8/1/2013 22:02	KB	
I-Pentanoic Acid	0.0090U mg/l	0.15	0.0090	1		8/1/2013 22:02	KB	
Pentanoic Acid	0.011U mg/l	0.070	0.011	1		8/1/2013 22:02	KB	
I-Hexanoic Acid	0.029U mg/l	0.10	0.029	1		8/1/2013 22:02	KB	
Hexanoic Acid	0.22U mg/l	0.50	0.22	1		8/1/2013 22:02	KB	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910002
Sample ID: MW1

Date Received: 7/27/2013 11:00 Matrix: Bubble Strip
Date Collected: 7/25/2013 09:50

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX		Analytical Method: AM20GAX							
Methane	0.033	ug/l	0.015	0.0020	1		8/6/2013 09:08	GT	
Ethane	0.0021J	ug/l	0.010	0.0020	1		8/6/2013 09:08	GT	
Ethene	0.011	ug/l	0.010	0.0060	1		8/6/2013 09:08	GT	
Hydrogen	0.77	nM	0.60	0.049	1		8/6/2013 09:08	GT	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910003
Sample ID: MW3

Date Received: 7/27/2013 11:00 Matrix: Water
Date Collected: 7/25/2013 11:25

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
EDonors - MICR									
Analysis Desc: AM23G Analytical Method: AM23G									
Lactic Acid	0.053J	mg/l	0.10	0.013	1		8/1/2013 22:44	KB	
Acetic Acid	0.038J	mg/l	0.070	0.0050	1		8/1/2013 22:44	KB	
Propionic Acid	0.021J	mg/l	0.050	0.0080	1		8/1/2013 22:44	KB	
Butyric Acid	0.011U	mg/l	0.050	0.011	1		8/1/2013 22:44	KB	
Pyruvic Acid	0.014U	mg/l	0.15	0.014	1		8/1/2013 22:44	KB	
i-Pentanoic Acid	0.0090U	mg/l	0.15	0.0090	1		8/1/2013 22:44	KB	
Pentanoic Acid	0.011U	mg/l	0.070	0.011	1		8/1/2013 22:44	KB	
i-Hexanoic Acid	0.029U	mg/l	0.10	0.029	1		8/1/2013 22:44	KB	
Hexanoic Acid	0.22U	mg/l	0.50	0.22	1		8/1/2013 22:44	KB	

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Phone: (412) 826-5246
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910004
Sample ID: MW3

Date Received: 7/27/2013 11:00 Matrix: Bubble Strip
Date Collected: 7/25/2013 11:25

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX		Analytical Method: AM20GAX:							
Methane	4.5	ug/l	0.015	0.0020	1		8/6/2013 09:20	GT	
Ethane	0.0025J	ug/l	0.010	0.0020	1		8/6/2013 09:20	GT	
Ethene	0.012	ug/l	0.010	0.0060	1		8/6/2013 09:20	GT	
Hydrogen	0.83	nM	0.60	0.049	1		8/6/2013 09:20	GT	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910005

Date Received: 7/27/2013 11:00 Matrix: Water

Sample ID: MW4

Date Collected: 7/25/2013 12:10

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
EDonors - MICR									
Analysis Desc: AM23G Analytical Method: AM23G									
Lactic Acid	0.054J	mg/l	0.10	0.013	1		8/1/2013 23:26	KB	
Acetic Acid	0.036J	mg/l	0.070	0.0050	1		8/1/2013 23:26	KB	
Propionic Acid	0.023J	mg/l	0.050	0.0080	1		8/1/2013 23:26	KB	
Butyric Acid	0.011U	mg/l	0.050	0.011	1		8/1/2013 23:26	KB	
Pyruvic Acid	0.014U	mg/l	0.15	0.014	1		8/1/2013 23:26	KB	
I-Pentanoic Acid	0.0090U	mg/l	0.15	0.0090	1		8/1/2013 23:26	KB	
Pentanoic Acid	0.011U	mg/l	0.070	0.011	1		8/1/2013 23:26	KB	
I-Hexanoic Acid	0.029U	mg/l	0.10	0.029	1		8/1/2013 23:26	KB	
Hexanoic Acid	0.22U	mg/l	0.50	0.22	1		8/1/2013 23:26	KB	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910006
Sample ID: MW4

Date Received: 7/27/2013 11:00 Matrix: Bubble Strip
Date Collected: 7/25/2013 12:10

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX		Analytical Method: AM20GAX							
Methane	720	ug/l	0.015	0.0020	1		8/7/2013 09:01	GT	
Ethane	0.0049J	ug/l	0.010	0.0020	1		8/7/2013 09:01	GT	
Ethene	0.012	ug/l	0.010	0.0060	1		8/7/2013 09:01	GT	
Hydrogen	1.0	nM	0.60	0.049	1		8/7/2013 09:01	GT	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910007
Sample ID: MW6

Date Received: 7/27/2013 11:00 Matrix: Water
Date Collected: 7/25/2013 15:20

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
EDonors - MICR									
Analysis Desc: AM23G Analytical Method: AM23G									
Lactic Acid	0.072J	mg/l	0.10	0.013	1		8/2/2013 00:08	KB	
Acetic Acid	0.044J	mg/l	0.070	0.0050	1		8/2/2013 00:08	KB	
Propionic Acid	0.021J	mg/l	0.050	0.0080	1		8/2/2013 00:08	KB	
Butyric Acid	0.061	mg/l	0.050	0.011	1		8/2/2013 00:08	KB	
Pyruvic Acid	0.014U	mg/l	0.15	0.014	1		8/2/2013 00:08	KB	
i-Pentanoic Acid	0.0090U	mg/l	0.15	0.0090	1		8/2/2013 00:08	KB	
Pentanoic Acid	0.011U	mg/l	0.070	0.011	1		8/2/2013 00:08	KB	
i-Hexanoic Acid	0.029U	mg/l	0.10	0.029	1		8/2/2013 00:08	KB	
Hexanoic Acid	0.22U	mg/l	0.50	0.22	1		8/2/2013 00:08	KB	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

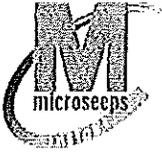
Lab ID: 96910008 Date Received: 7/27/2013 11:00 Matrix: Bubble Strip
Sample ID: MW6 Date Collected: 7/25/2013 15:20

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX		Analytical Method: AM20GAX							
Methane	1300	ug/l	0.015	0.0020	1		8/7/2013 09:16	GT	
Ethane	0.022	ug/l	0.010	0.0020	1		8/7/2013 09:16	GT	
Ethene	0.0084J	ug/l	0.010	0.0060	1		8/7/2013 09:16	GT	
Hydrogen	1.0	nM	0.60	0.049	1		8/7/2013 09:16	GT	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910009
Sample ID: MW9

Date Received: 7/27/2013 11:00 Matrix: Water
Date Collected: 7/25/2013 12:55

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
EDonors - MICR									
Analysis Desc: AM23G Analytical Method: AM23G									
Lactic Acid	0.077J	mg/l	0.10	0.013	1		8/2/2013 00:50	KB	
Acetic Acid	0.088	mg/l	0.070	0.0050	1		8/2/2013 00:50	KB	
Propionic Acid	0.022J	mg/l	0.050	0.0080	1		8/2/2013 00:50	KB	
Butyric Acid	0.011U	mg/l	0.050	0.011	1		8/2/2013 00:50	KB	
Pyruvic Acid	0.014U	mg/l	0.15	0.014	1		8/2/2013 00:50	KB	
i-Pentanoic Acid	0.0090U	mg/l	0.15	0.0090	1		8/2/2013 00:50	KB	
Pentanoic Acid	0.011U	mg/l	0.070	0.011	1		8/2/2013 00:50	KB	
i-Hexanoic Acid	0.029U	mg/l	0.10	0.029	1		8/2/2013 00:50	KB	
Hexanoic Acid	0.22U	mg/l	0.50	0.22	1		8/2/2013 00:50	KB	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910010
Sample ID: MW9

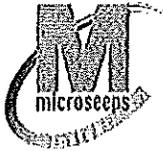
Date Received: 7/27/2013 11:00 Matrix: Bubble Strip
Date Collected: 7/25/2013 12:55

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX		Analytical Method: AM20GAX							
Methane	66	ug/l	0.015	0.0020	1		8/7/2013 09:28	GT	
Ethane	0.016	ug/l	0.010	0.0020	1		8/7/2013 09:28	GT	
Ethene	0.0060U	ug/l	0.010	0.0060	1		8/7/2013 09:28	GT	
Hydrogen	0.77	nM	0.60	0.049	1		8/7/2013 09:28	GT	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910011
Sample ID: MW11

Date Received: 7/27/2013 11:00 Matrix: Water
Date Collected: 7/25/2013 14:40

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
EDonors - MICR									
Analysis Desc: AM23G Analytical Method: AM23G									
Lactic Acid	0.070J	mg/l	0.10	0.013	1		8/2/2013 01:32	KB	
Acetic Acid	0.023J	mg/l	0.070	0.0050	1		8/2/2013 01:32	KB	
Propionic Acid	0.0080U	mg/l	0.050	0.0080	1		8/2/2013 01:32	KB	
Butyric Acid	0.011U	mg/l	0.050	0.011	1		8/2/2013 01:32	KB	
Pyruvic Acid	0.014U	mg/l	0.15	0.014	1		8/2/2013 01:32	KB	
l-Pentanoic Acid	0.0090U	mg/l	0.15	0.0090	1		8/2/2013 01:32	KB	
Pentanoic Acid	0.011U	mg/l	0.070	0.011	1		8/2/2013 01:32	KB	
l-Hexanoic Acid	0.029U	mg/l	0.10	0.029	1		8/2/2013 01:32	KB	
Hexanoic Acid	0.22U	mg/l	0.50	0.22	1		8/2/2013 01:32	KB	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910012

Date Received: 7/27/2013 11:00 Matrix: Bubble Strip

Sample ID: MW11

Date Collected: 7/25/2013 14:40

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX.		Analytical Method: AM20GAX							
Methane	970	ug/l	0.015	0.0020	1		8/7/2013 09:43	GT	
Ethane	0.050	ug/l	0.010	0.0020	1		8/7/2013 09:43	GT	
Eihene	0.016	ug/l	0.010	0.0060	1		8/7/2013 09:43	GT	
Hydrogen	0.86	nM	0.60	0.049	1		8/7/2013 09:43	GT	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910013
Sample ID: MW12

Date Received: 7/27/2013 11:00 Matrix: Water
Date Collected: 7/25/2013 13:50

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
EDonors - MICR									
Analysis Desc: AM23G Analytical Method: AM23G									
Lactic Acid	0.42	mg/l	0.10	0.013	1		8/2/2013 02:14	KB	
Acetic Acid	0.12	mg/l	0.070	0.0050	1		8/2/2013 02:14	KB	
Propionic Acid	0.025J	mg/l	0.050	0.0080	1		8/2/2013 02:14	KB	
Butyric Acid	0.011U	mg/l	0.050	0.011	1		8/2/2013 02:14	KB	
Pyruvic Acid	0.014U	mg/l	0.15	0.014	1		8/2/2013 02:14	KB	
i-Pentanoic Acid	0.0090U	mg/l	0.15	0.0090	1		8/2/2013 02:14	KB	
Pentanoic Acid	0.011U	mg/l	0.070	0.011	1		8/2/2013 02:14	KB	
i-Hexanoic Acid	0.029U	mg/l	0.10	0.029	1		8/2/2013 02:14	KB	
Hexanoic Acid	0.22U	mg/l	0.50	0.22	1		8/2/2013 02:14	KB	

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ANALYTICAL RESULTS

Workorder: 9691 LENOIR CO / 6009

Lab ID: 96910014
Sample ID: MW12

Date Received: 7/27/2013 11:00 Matrix: Bubble Strip
Date Collected: 7/25/2013 13:50

Parameters	Results	Units	PQL	MDL	DF Prepared	By	Analyzed	By	Qual
RISK - MICR									
Analysis Desc: AM20GAX		Analytical Method: AM20GAX							
Methane	570	ug/l	0.015	0.0020	1		8/7/2013 09:56	GT	
Ethane	0.015	ug/l	0.010	0.0020	1		8/7/2013 09:56	GT	
Ethene	0.12	ug/l	0.010	0.0060	1		8/7/2013 09:56	GT	
Hydrogen	1.1	nM	0.60	0.049	1		8/7/2013 09:56	GT	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 9691 LENOIR CO / 6009

DEFINITIONS/QUALIFIERS

Disclaimer : The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAx, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).

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QUALITY CONTROL DATA

Workorder: 9691 LENOIR CO / 6009

QC Batch: EDON/1823 Analysis Method: AM23G
 QC Batch Method: AM23G
 Associated Lab Samples: 96910001, 96910003, 96910005, 96910007, 96910009, 96910011, 96910013

METHOD BLANK: 21903

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EDonors				
Lactic Acid	mg/l	0.079J	0.013	
Acetic Acid	mg/l	0.0050U	0.0050	
Propionic Acid	mg/l	0.0080U	0.0080	
Butyric Acid	mg/l	0.011U	0.011	
Pyruvic Acid	mg/l	0.014U	0.014	
i-Pentanoic Acid	mg/l	0.0090U	0.0090	
Pentanoic Acid	mg/l	0.011U	0.011	
i-Hexanoic Acid	mg/l	0.029U	0.029	
Hexanoic Acid	mg/l	0.22U	0.22	

LABORATORY CONTROL SAMPLE: 21904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors						
Lactic Acid	mg/l	2	2.0	100	70-130	
Acetic Acid	mg/l	2	2.0	102	70-130	
Propionic Acid	mg/l	2	2.0	100	70-130	
Butyric Acid	mg/l	2	2.0	99	70-130	
Pyruvic Acid	mg/l	2	2.1	105	70-130	
i-Pentanoic Acid	mg/l	2	1.8	88	70-130	
Pentanoic Acid	mg/l	2	1.8	92	70-130	
i-Hexanoic Acid	mg/l	2	1.7	83	70-130	
Hexanoic Acid	mg/l	2	1.8	92	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21905 21906 Original: 96630001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
EDonors											
Lactic Acid	mg/l	0	2	2.2	2.2	109	108	70-130	0.92	30	
Acetic Acid	mg/l	0.079	2	2.1	2.1	100	100	70-130	0	30	
Propionic Acid	mg/l	0	2	2.0	2.0	99	101	70-130	2	30	

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QUALITY CONTROL DATA

Workorder: 9691 LENOIR CO / 6009

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21905 21908 Original: 96630001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Butyric Acid	mg/l	0	2	1.9	2.0	97	98	70-130	1	30	
Pyruvic Acid	mg/l	0	2	2.1	2.1	106	106	70-130	0	30	
I-Pentanoic Acid	mg/l	0	2	1.8	1.8	89	93	70-130	4.4	30	
Pentanoic Acid	mg/l	0	2	1.8	1.8	90	91	70-130	1.1	30	
I-Hexanoic Acid	mg/l	0	2	1.9	1.7	93	85	70-130	9	30	
Hexanoic Acid	mg/l	0	2	1.8	1.9	92	94	70-130	2.2	30	

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QUALITY CONTROL DATA

Workorder: 9691 LENOIR CO / 6009

QC Batch: DISG/3176 Analysis Method: AM20GAX
 QC Batch Method: AM20GAX
 Associated Lab Samples: 96910002, 96910004

METHOD BLANK: 22003

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK			
Methane	ug/l	0.0020U	0.0020
Ethane	ug/l	0.0020U	0.0020
Ethene	ug/l	0.0060U	0.0060

METHOD BLANK: 22005

Parameter	Units	Blank Result	Reporting Limit Qualifiers
RISK			
Hydrogen	nM	0.049U	0.049

LABORATORY CONTROL SAMPLE & LCSD: 22006 22009

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
RISK									
Methane	ug/l	8.4	8.3	8.3	99	99	80-120	0	20
Ethane	ug/l	6.4	6.5	6.5	102	101	80-120	0.99	20
Ethene	ug/l	16	16	16	101	101	80-120	0	20

LABORATORY CONTROL SAMPLE & LCSD: 22008 22011

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
RISK									
Hydrogen	nM	24	24	24	101	100	80-120	1	20

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QUALITY CONTROL DATA

Workorder: 9691 LENOIR CO / 6009

QC Batch: DISG/3180 Analysis Method: AM20GAX
 QC Batch Method: AM20GAX
 Associated Lab Samples: 96910006, 96910008, 96910010, 96910012, 96910014

METHOD BLANK: 22049

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.0020U	0.0020	
Ethane	ug/l	0.0020U	0.0020	
Ethene	ug/l	0.0060U	0.0060	

METHOD BLANK: 22051

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	0.049U	0.049	

LABORATORY CONTROL SAMPLE & LCSD: 22052 22055

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Methane	ug/l	8.4	8.4	8.3	101	100	80-120	1	20	
Ethane	ug/l	6.4	6.5	6.5	102	101	80-120	0.99	20	
Ethene	ug/l	16	16	16	102	100	80-120	2	20	

LABORATORY CONTROL SAMPLE & LCSD: 22054 22057

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Hydrogen	nM	24	24	24	99	97	80-120	2	20	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 9691 LENOIR CO / 6009

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
96910001	MW1			AM23G	EDON/1823
96910003	MW3			AM23G	EDON/1823
96910005	MW4			AM23G	EDON/1823
96910007	MW6			AM23G	EDON/1823
96910009	MW9			AM23G	EDON/1823
96910011	MW11			AM23G	EDON/1823
96910013	MW12			AM23G	EDON/1823
96910002	MW1			AM20GAX	DISG/3176
96910004	MW3			AM20GAX	DISG/3176
96910006	MW4			AM20GAX	DISG/3180
96910008	MW6			AM20GAX	DISG/3180
96910010	MW9			AM20GAX	DISG/3180
96910012	MW11			AM20GAX	DISG/3180
96910014	MW12			AM20GAX	DISG/3180

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Microseeps
Lab. Proj. #

9691

CHAIN - OF - CUSTODY RECORD

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COC cont. #

Phone: (412) 826-5245

Microseeps, Inc. - 220 William Pitt Way - Pittsburgh, PA 15238

Fax No.: (412) 826-3433

Company: ENVIRONMENT 1 INC

Co. Address: 114 OAKMAN DRIVE GREENMOUNT, NC 27828

Phone #: 252-756-6248 Fax #: 252-256-0633

Proj. Manager: STUE JONES

Proj. Name/Number: LENOIR CO. / 6009

Sampler's signature: Bobby Fox

Cooler Temp. 40C

Time 7:00/15

Sample ID	Sample Description	Sample Type Water/Vapor/Solid	Date	Time	Relinquished by	Received by	Company	Date	Time
MW1		✓	7/25/13	0930	LLUFA	ENVIRONMENT 1	ENVIRONMENT 1	7/29/13	1630
MW3		✓		1125	HYDROGEN	ENVIRONMENT 1	ENVIRONMENT 1		
MW4		✓		1240	HEXANONE/ETHANE/ETHYLENE	ENVIRONMENT 1	ENVIRONMENT 1		
MW6		✓		1520		ENVIRONMENT 1	ENVIRONMENT 1		
MW9		✓		1255		ENVIRONMENT 1	ENVIRONMENT 1		
MW11		✓		1440		ENVIRONMENT 1	ENVIRONMENT 1		
MW12		✓		1550		ENVIRONMENT 1	ENVIRONMENT 1		

FACILITY ID#
54031

Parameters Requested: _____

Results to: SAME

Invoice to: SAME

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Bobby Fox	ENVIRONMENT 1	7/25/13	1630	[Signature]	ENVIRONMENT 1	7/29/13	1630
[Signature]	ENVIRONMENT 1	7/25/13	10:15 AM	[Signature]	ENVIRONMENT 1	7/27/13	1100

Cooler Receipt Form

Client Name: Environment 1 Project: Lenoir Co. / Lab Work Order: 9691

6009

A. Shipping/Container Information (circle appropriate response)

Courier: FedEx UPS USPS Client Other: _____ Air bill Present: Yes No

Tracking Number: 848214372175

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: _____

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 4°C Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: _____

B. Laboratory Assignment/Log-in (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC	✓			
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC Sample name/date and time collected	✓			
Sufficient volume provided	✓			
Microseeps containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments: _____

Cooler contents examined/received by: LY Date: 7/27/13

Project Manager Review: RW Date: 7/31/13

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

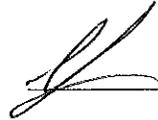
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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: 07/25/13
DATE REPORTED : 08/19/13

REVIEWED BY: 

PARAMETERS	MDL	SW-1		SW-3		Analysis		Method Code
		SWSL				Date	Analyst	
PH (field measurement), Units			5.7		5.5	07/25/13BF		4500HB-00
Antimony, ug/l	0.02	6.0	0.11 J		0.10 J	08/15/13LFJ		EPA200.8
Arsenic, ug/l	0.05	10.0	1.8 J		1.4 J	08/15/13LFJ		EPA200.8
Barium, ug/l	0.06	100.0	43.0 J		42.5 J	08/14/53LFJ		EPA200.8
Beryllium, ug/l	0.03	1.0	0.05 J		0.04 J	08/15/13LFJ		EPA200.8
Cadmium, ug/l	0.05	1.0	--- U		--- U	08/15/13LFJ		EPA200.8
Cobalt, ug/l	0.02	10.0	0.43 J		0.33 J	08/15/13LFJ		EPA200.8
Copper, ug/l	0.06	10.0	1.6 J		2.6 J	08/15/13LFJ		EPA200.8
Total Chromium, ug/l	0.04	10.0	0.83 J		0.95 J	08/15/13LFJ		EPA200.8
Lead, ug/l	0.02	10.0	1.1 J		0.88 J	08/15/13LFJ		EPA200.8
Nickel, ug/l	0.45	50.0	1.0 J		0.82 J	08/15/13LFJ		EPA200.8
Selenium, ug/l	0.06	10.0	--- U		--- U	08/15/13LFJ		EPA200.8
Silver, ug/l	0.03	10.0	--- U		--- U	08/15/13LFJ		EPA200.8
Thallium, ug/l	0.02	5.5	0.04 J		0.03 J	08/15/13LFJ		EPA200.8
Vanadium, ug/l	0.07	25.0	1.4 J		1.6 J	08/14/13LFJ		EPA200.8
Zinc, ug/l	0.47	10.0	9.9 J		6.7 J	08/15/13LFJ		EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	77		72	07/25/13BF		2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	5.36		3.83	07/25/13BF		4500OG-01
Temperature, °C			24		23	07/25/13BF		2550B-00
ORP, mv			+202.6		+218.8	07/25/13BF		2580B
Turbidity (Field), NTU	1.0	1.0	37.5		33.5	07/25/13BF		2130B-01

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

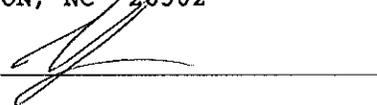
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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

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

CLIENT ID: 6009 A
ANALYST: MAO
DATE COLLECTED: 07/25/13
DATE ANALYZED: 07/30/13
DATE REPORTED: 08/19/13

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	SW-1	SW-3
1. Chloromethane	0.77	1.0	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- 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: 6009 A Week: 33

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

(252) 566-4194

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	DISINFECTION		Field pH	Metals	Conductivity	DO	Temperature	EPA 8260B	8260 Dup. 1	8260 Dup. 2	ORP	Field Parmeter	PARAMETERS
	DATE	TIME				<input type="checkbox"/> CHLORINE	<input type="checkbox"/> UV											
SW-1	7-25-13	1305		24	5	<input type="checkbox"/>	<input type="checkbox"/>											
SW-3	7-25-13	1010		23	5	<input type="checkbox"/>	<input type="checkbox"/>											
RELINQUISHED BY (SIG.)			DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	COMMENTS:												
Tom Bandy			7-25-13 1630	[Signature]	7/26/13 1429	SAMPLER MUST BE MAINTAINED DURING SHIPMENT/DELIVERY												
RELINQUISHED BY (SIG.)			DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	SAMPLER MUST BE MAINTAINED DURING SHIPMENT/DELIVERY												
RELINQUISHED BY (SIG.)			DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	SAMPLER MUST BE MAINTAINED DURING SHIPMENT/DELIVERY												

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 263360

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#: 6010 A

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

DATE COLLECTED: 07/24/13
DATE REPORTED : 08/16/13

REVIEWED BY: 

PARAMETERS	MDL	Equipment		Trip Blank	Field Blank	Analysis		Method Code
		SWSL	Blank			Date	Analyst	
Antimony, ug/l	0.02	6.0	---	U	---	U	07/26/13LFFJ	EPA200.8
Arsenic, ug/l	0.05	10.0	0.18	J	0.16	J	07/26/13LFFJ	EPA200.8
Barium, ug/l	0.06	100.0	0.32	J	0.19	J	07/26/13LFFJ	EPA200.8
Beryllium, ug/l	0.03	1.0	---	U	---	U	07/26/13LFFJ	EPA200.8
Cadmium, ug/l	0.05	1.0	---	U	---	U	07/26/13LFFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	---	U	---	U	07/26/13LFFJ	EPA200.8
Copper, ug/l	0.06	10.0	1.2	J	0.24	J	07/26/13LFFJ	EPA200.8
Total Chromium, ug/l	0.04	10.0	---	U	---	U	07/26/13LFFJ	EPA200.8
Lead, ug/l	0.02	10.0	0.07	J	0.04	J	07/26/13LFFJ	EPA200.8
Mercury, ug/l	0.01	0.20	0.03	J			08/07/13ADD	245.1 R3-94
Nickel, ug/l	0.45	50.0	---	U	---	U	07/26/13LFFJ	EPA200.8
Selenium, ug/l	0.06	10.0	---	U	---	U	07/26/13LFFJ	EPA200.8
Silver, ug/l	0.03	10.0	---	U	---	U	07/26/13LFFJ	EPA200.8
Thallium, ug/l	0.02	5.5	---	U	---	U	07/26/13LFFJ	EPA200.8
Vanadium, ug/l	0.07	25.0	---	U	---	U	07/26/13LFFJ	EPA200.8
Zinc, ug/l	0.47	10.0	2.9	J	1.9	J	07/26/13LFFJ	EPA200.8

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

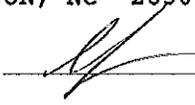
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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

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

CLIENT ID: 6010 A
ANALYST: MAO
DATE COLLECTED: 07/24/13
DATE ANALYZED: 07/25/13
DATE REPORTED: 08/16/13

Page: 1

REVIEWED BY: 

LANDFILL APPENDIX II
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	Equipment Blank	Trip Blank	Field Blank
1. Chloromethane	0.77	1.0	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U
5. TrichloroFluoromethane	0.24	1.0	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.21	1.0	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U
48. Acrolein	40.57	53.0	--- U	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

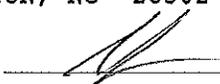
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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

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

CLIENT ID: 6010 A
ANALYST: MAO
DATE COLLECTED: 07/24/13
DATE ANALYZED: 07/25/13
DATE REPORTED: 08/16/13

Page: 2

REVIEWED BY: 

LANDFILL APPENDIX II EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	Equipment Blank	Trip Blank	Field Blank
49. Allyl Chloride	0.20	10.0	--- U	--- U	--- U
50. Chloroprene	0.21	20.0	--- U	--- U	--- U
51. 1,3-Dichlorobenzene	0.41	5.0	--- U	--- U	--- U
52. Dichlorodifluoromethane	0.51	5.0	--- U	--- U	--- U
53. 1,3-Dichloropropane	0.28	1.0	--- U	--- U	--- U
54. 2,2-Dichloropropane	0.17	15.0	--- U	--- U	--- U
55. 1,1-Dichloropropene	0.22	5.0	--- U	--- U	--- U
56. Ethyl Methacrylate	0.16	10.0	--- U	--- U	--- U
57. Hexachlorobutadiene	0.57	10.0	--- U	--- U	--- U
58. Isobutyl Alcohol	12.80	100.0	--- U	--- U	--- U
59. Methacrylonitrile	1.93	100.0	--- U	--- U	--- U
60. Methyl Methacrylate	0.25	30.0	--- U	--- U	--- U
61. Naphthalene	0.47	10.0	--- U	--- U	--- U
62. Propionitrile	3.26	150.0	--- U	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.50	10.0	--- U	--- U	--- U
64. Acetonitrile	36.29	55.0	--- U	--- U	--- U

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: 6010 A Week: 33

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

(252) 566-4194

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	DISINFECTION			Metals	8260B App. II	8260 App. II 1	PARAMETERS
	DATE	TIME				<input type="checkbox"/> CHLORINE	<input type="checkbox"/> UV	<input type="checkbox"/> NONE				
Equipment Blank	7-24-13	0940			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				A - NONE D - NAOH B - HNO ₃ E - HCL C - H ₂ SO ₄ F - ZINC ACETATE/NAOH G - NA THIOSULFATE
Trip Blank	7-24-13				2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Field Blank	7-24-13	0940			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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.)
<i>Bobby Fox</i>	7-24-13 1340	<i>BF</i>	7-24-13 1200	<i>BF</i>	7-24-13 1200	<i>BF</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 263359

CLASSIFICATION:
 WASTEWATER (INDPDES)
 DRINKING WATER
 DWO/GW
 SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
 N

SAMPLES COLLECTED BY: *Bobby Fox*
 (Please Print)

SAMPLES RECEIVED IN LAB AT 0.8 °C