Semi-Annual Water Quality Monitoring Report with Corrective Action Update

Prepared for

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

January 2013

Permit Number: 54-03
MESCO Project Number: G12015.0

Submittal Date: April 1, 2013

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

Municipal Services Garner, NC
Engineering Company, P.A. Boone, NC
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	January 30, 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
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☒ Surface water monitoring data
☐ Methane gas monitoring data
☒ Corrective action data (specify) MNA Analysis For 7 Wells per CAP
☐ Other(specify)

Notification attached?

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

Certification

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

D. Mark Durway, L.G. Geologist (919) 772-5393

Facility Representative Name (Print) Title (Area Code) Telephone Number

D. Mark Durway 4.1.13

Signature Date

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 0875 GEOLOGIST D. MARK DURWAY

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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License No. C-0281

CIVIL/SANITARY/ENVIRONMENTAL ENGINEERS
SOLID WASTE MANAGEMENT

Municipal Services Engineering Company, P.A.

SITE PLANNING/SUBDIVISIONS
SUBSURFACE UTILITY ENGINEERING (SUE)

April 1, 2013

Jaclynne 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
Event Date: January 30, 2013
Permit No. 54-03
MESCO Project No. G12015.0

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 winter 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 January 30, 2013. Laboratory analytical results indicate that a "j-qualified" concetration of vinyl chloride was detected at MW-11, located within the compliance boundary, which may be slightly above the NC Groundwater 2L Standard. Corrective action via monitored natural attenuation (MNA) is ongoing to remediate volatile organic compounds (VOCs) as previously detected in groundwater 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 is monitored separately under permit 54-09 and is located on contiguous property to the southeast.

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 is planned for June. 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 chains-of-custody (C-O-C), quality assurance/quality control data and MNA screening models.

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 pH, specific conductance, 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 all water samples for the Appendix I list of constituents listed in 40 CFR 258. The few parameters listed in Appendix II but not also listed in Appendix I which were detected during the previous event were retested. 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, 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 fourteen (43%) of the targeted total metals were detected in low non-quantifiable ("j" qualified) concentrations in the FB. Although the field and/or laboratory induced artifact contamination was identified it's unlikely the data set has been influenced by false positives or high bias.

Groundwater Samples

Total metals were not detected in quantifiable concentrations (>SWSL) above 2L or GWP Standards.

Vinyl chloride was detected in MW-11 (0.8 ug/L) which is above the 2L Standard (0.3 ug/L) but below the SWSL ("j qualified"), therefore the value is uncertain.

The Appendix II pesticides including heptachlor as reportedly detected in low levels in MW-12 during the previous event was not detected during this event.

A site map spatially depicting the lone constituent detected in excess of the 2L Standard during this event is presented on **Figure 2**.

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 applicable 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 45 ft/yr in MW-11 and averaged 21 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 eight 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. Annually-required corrective action screening models are planned to be presented in the next semi-annual corrective action update report.

Findings

Samples collected from MW-11, located within the 250' compliance boundary, contained vinyl chloride slightly above the 2L Standard. However, the vinyl chloride concentration was below the SWSL thus "j qualified" indicating the value is uncertain.

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 July 2013. Please contact us by phone at (919) 772-5393 or by email at jpfohl@mesco.com or mdurway@mesco.com should you have any questions regarding this report.

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

Jonathan Pfohl
Environmental Specialist

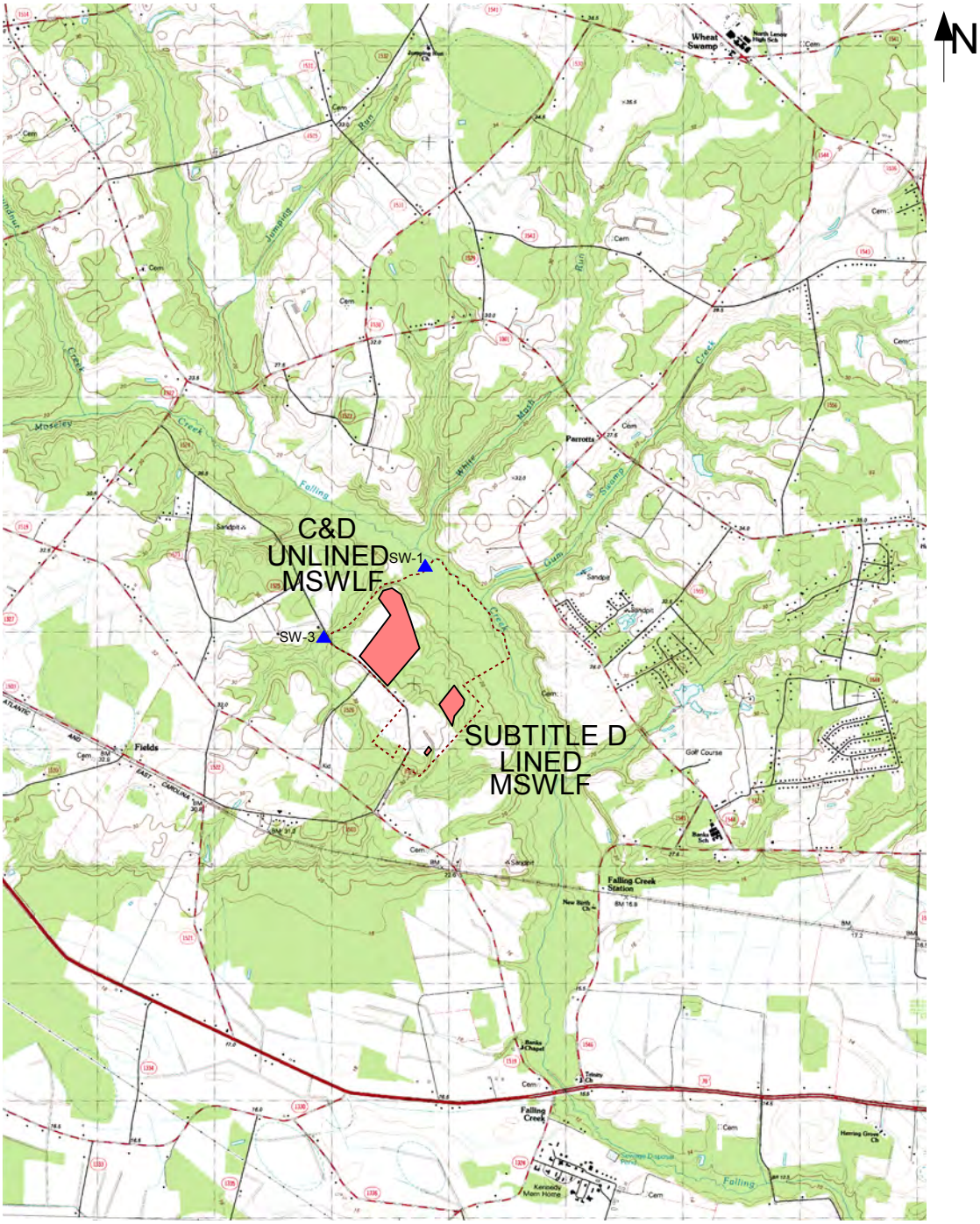
D. Mark Durway, L.G.
Geologist

NORTH CAROLINA LICENSED SEAL 0875 GEOLOGIST D. MARK DURWAY

Enclosures
cc: Mr. Tom Miller
Lenoir County

Figures

Topographic Map with Site Location
Lenoir County Landfill Facility



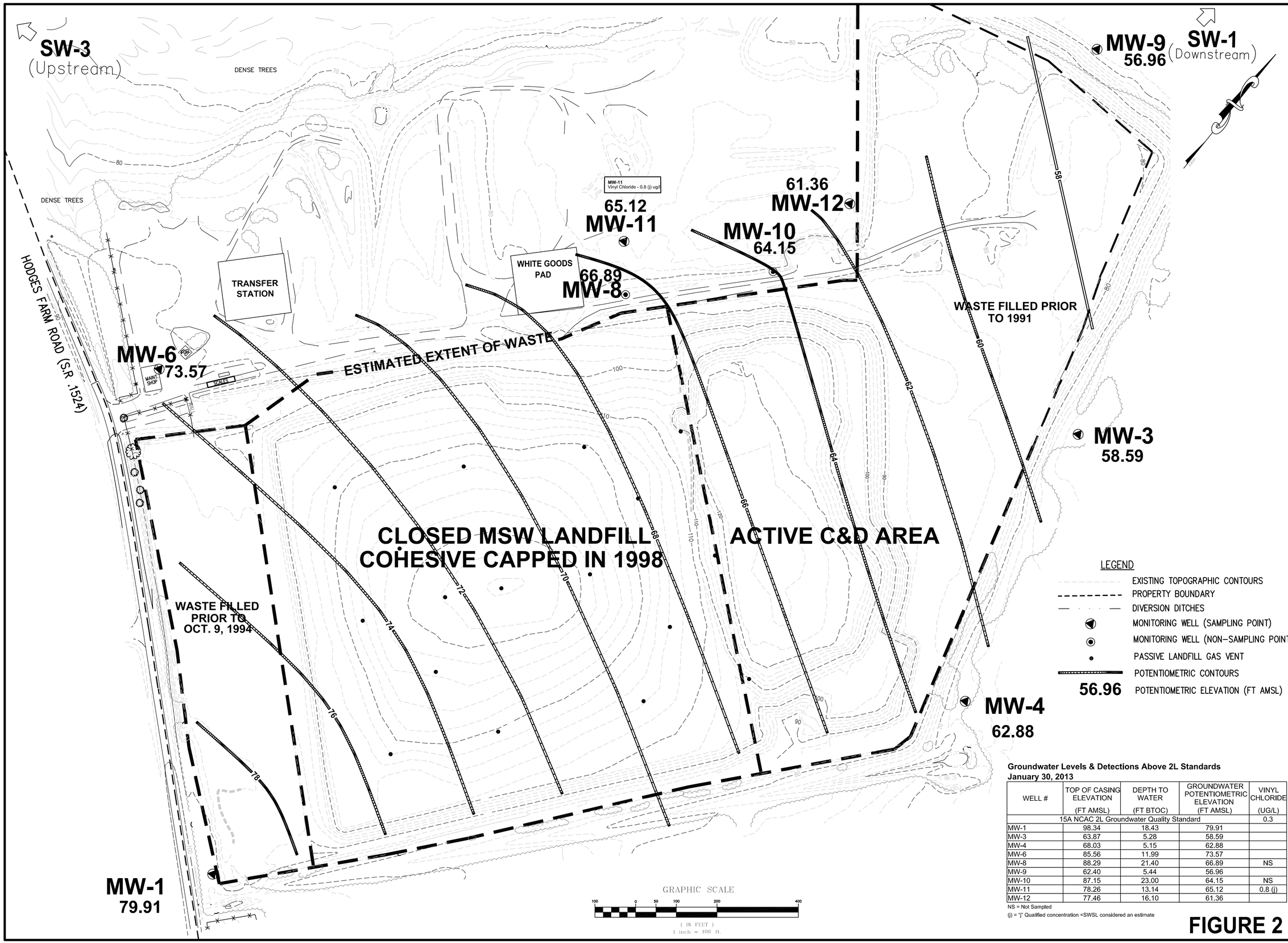
2949 Hodges Farm Rd (SR1524)
LaGrange, NC 28501
Lat:35-17-07.4269
Long:-77-42-32.7453
Northing:561295.59
Easting:2385220.32

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 & Detections Above 2L Standards
January 30, 2013

WELL #	TOP OF CASING ELEVATION (FT AMSL)	DEPTH TO WATER (FT BTOC)	GROUNDWATER POTENTIOMETRIC ELEVATION (FT AMSL)	VINYL CHLORIDE (UG/L)
15A NCAC 2L Groundwater Quality Standard				0.3
MW-1	98.34	18.43	79.91	
MW-3	63.87	5.28	58.59	
MW-4	68.03	5.15	62.88	
MW-6	85.56	11.99	73.57	
MW-8	88.29	21.40	66.89	NS
MW-9	62.40	5.44	56.96	
MW-10	87.15	23.00	64.15	NS
MW-11	78.26	13.14	65.12	0.8 (j)
MW-12	77.46	16.10	61.36	

NS = Not Sampled
(j) = "j" Qualified concentration <SWSL considered an estimate

FIGURE 2

Municipal Services
Engineering Company, P.A.
P.O. BOX 97 GARNER, N.C. 27529 (919) 772-5393
P.O. BOX 349 BOONE, N.C. 28607 (828) 262-1767
LICENSE NUMBER: C-0281

ACTIVE C&D LANDFILL and CLOSED MSW LANDFILL
LENOIR COUNTY NORTH CAROLINA

DATE	BY	REV.	DESCRIPTION

POTENTIOMETRIC MAP OF UPPERMOST AQUIFER w/ DETECTIONS ABOVE 2L STANDARDS

SCALE: 1"=100'
DATE: 3/25/13
DRWN. BY: J. PFOHL
CHKD. BY: M. DURWAY
PROJECT NUMBER: G12015.0
DRAWING NO.: FIGURE 2
SHEET NO.: 1 OF 1

Tables

Table 1
Sampling and Analysis Summary
January 30, 2013

		App. I		App II		MNA													Field Parameter					
	Reason Not Sampled	VOCs	Metals, Total	Herbicides-Chlorinated	Mercury, total	VFA	Hydrogen	Methane/Ethene/Ethane	Dissolved CO2	Alkalinity	Sulfate	Sulfide	Chloride	TOC	COD	BOD	Iron	Nitrate	Dissolved Oxygen (DO)	Oxidation Reduction Potential (ORP)	Temperature	Conductivity	pH	Turbidity
		Lab EPA 8260B	Lab EPA200.8	Lab SW8151A	Lab EPA 2020A	AM23G	AM20GAX	AM20GAX	SM4500CO2C	SM 2320B	SM426C	SM4500-S2D	SM 4500-CLB	SM 5310C	HACH8000	SM5210B	SM3111B	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
MW-3				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
MW-4		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
MW-6		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
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
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
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
SW-1		x	x																x	x	x	x	x	x
SW-3		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

Table 2
Detections Above Established SWSL, GWP, 2L or 2B (Appendix I)
January 30, 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	1/30/13	109	ug/l	0.07	100	700				
MW-1	Zinc, total	1/30/13	19	ug/l	0.48	10	1050				
MW-3	Zinc, total	1/30/13	45	ug/l	0.48	10	1050				
MW-3	Vanadium, total	1/30/13	8.4 j	ug/l	0.1	25	NE		3.5	4.9	
MW-4	Zinc, total	1/30/13	24	ug/l	0.48	10	1050				
MW-4	Vanadium, total	1/30/13	6.6 j	ug/l	0.1	25	NE		3.5	3.1	
MW-9	Zinc, total	1/30/13	15	ug/l	0.48	10	1050				
MW-9	Barium, total	1/30/13	101	ug/l	1.51	100	700				
MW-11	**Vinyl Chloride**	**1/30/13**	**0.8 j**	ug/l	**0.63**	**1**	**0.03**			**0.77**	**L &/or LFG**
MW-12	Barium, total	1/30/13	179	ug/l	1.51	100	700				
SW-1	Zinc, total	1/30/13	22	ug/l	0.48	10	1050				
EB	Vanadium, total	1/30/13	0.16 j	ug/l	0.1	25	NE		3.5		

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

L = Leachate

LFG = Landfill Gas

BOLD = Concentration > 2L, or 2B Standard

Table 3
Detections Above MDL (Appendix II Exclusive)
January 30, 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-3	Mercury, total	1/30/13	0.03 j	ug/l	0.02	0.2	1.05				
MW-4	Mercury, total	1/30/13	0.03 j	ug/l	0.02	0.2	1.05				
MW-9	Mercury, total	1/30/13	0.98 j	ug/l	0.02	0.2	1.05				
MW-11	Mercury, total	1/30/13	0.02 j	ug/l	0.02	0.2	1.05				
MW-12	Mercury, total	1/30/13	0.15 j	ug/l	0.02	0.2	1.05				

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
January 30, 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	0.009	20	N25E	18.43	79.91	Silty Sand
MW-3	1.30E-04	20	0.009	6	N28E	5.28	58.59	Silty Sand
MW-4	5.40E-04	20	0.012	32	N30E	5.15	62.88	Silty Sand
MW-6	-	-	0.008	-	N01W	11.99	73.57	Silty Sand
MW-9	3.80E-04	20	0.007	13	N35E	5.44	56.96	Sandy Clay
MW-11	6.59E-04	20	0.013	45	S15E	13.14	65.12	Sand
MW-12	2.10E-04	20	0.007	7	N32E	16.1	61.36	Sand
Minimum	1.30E-04	20	0.007	6	-	5.15	56.96	-
Average	3.91E-04	20	0.009	21	-	10.79	65.48	-
Maximum	6.59E-04	20	0.013	45	-	18.43	79.91	-

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 January 30, 2013.
Linear velocity rate (Q) is was calculated via modified Darcy's equation:

where

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

K = hydraulic conductivity
ne = effective porosity
dh = head difference
dl = horizontal distance

Table 5
MNA Parameter Summary
January 30, 2013

Parameters	Method	MDL*	Units	MW-1	MW-3	MW-4	MW-6	MW-9	MW-11	MW-12
				01/30/13	01/30/13	01/30/13	01/30/13	01/30/13	01/30/13	01/30/13
VFA – Acetic Acid	AM23G	21	ug/L	<21	<21	<21	<21	47 j	<21	30 j
VFA – Butyric Acid	AM23G	7	ug/L	<7	<7	<7	<7	<7	<7	<7
VFA – Hexanoic Acid	AM23G	39	ug/L	<39	<39	<39	<13	<39	<39	<39
VFA – i-Hexanoic Acid	AM23G	13	ug/L	<13	<13	<13	<39	<13	<13	<13
VFA – i-Pentanoic Acid	AM23G	12	ug/L	<12	<12	<12	<12	<12	<12	<12
VFA – Lactic Acid	AM23G	32	ug/L	37 j	<32	37 j	34 j	<32	<32	43 j
VFA – Pentaonic Acid	AM23G	10	ug/L	<10	<10	<10	<10	<10	<10	<10
VFA – Propionic Acid	AM23G	4	ug/L	<4	<4	<4	<4	<4	<4	<4
VFA – Pyruvic Acid	AM23G	4	ug/L	<4	<4	<4	<4	<4	<4	<4
Hydrogen	AM20GAX	0.15	nM	0.61 [2] j	0.52 [2] j	0.69 [2] j	0.59 [2] j	1.1 [2] j	0.54 [2] j	0.51 [2] j
Methane	AM20GAX	0.003	ug/L	0.92	0.51	430	960	46	690	630
Ethene	AM20GAX	0.002	ug/L	<0.007	<0.007	<0.007	<0.007	0.008 j	0.008 j	0.09
Ethane	AM20GAX	0.001	ug/L	0.0015 j	0.0017 j	<0.001	0.0086 j	0.02	0.02	0.01
CO2-Dissolved	SM4500CO2C	1000	ug/L	28000	27000	94000	178000	238000	55000	477000
Alkalinity	SM 2320B	1000	ug/L	<1000	6000	14000	2000	30000	<1000	<1000
Sulfate	SM426C	5000	ug/L	5800 j	5300 j	9300 j	10800 j	37100 j	5400 j	54200 j
Sulfide	SM4500-S2D	100	ug/L	<100	<100	<100	<100	<100	<100	<100
Chloride	SM 4500-CLB	5000	ug/L	22000	12000	18000	5000	16000	7000	60000
TOC	SM 5310C	300	ug/L	<300	2320	6460	1070	4040	<300	12160
COD	HACH8000	20000	ug/L	<20000	<20000	<20000	<20000	<20000	<20000	36000
BOD	SM5210B	2000	ug/L	<2000	<2000	<2000	<2000	<2000	<2000	<2000
Iron, total	SM3111B	15.9	ug/L	1202	24980	7935	2541	17070	560	651
Nitrate	EPA 353.2	30	ug/L	12120	1590 j	<30	3330 j	2960 j	2210 j	<30
Temperature	SM2550B	100	Degrees C	18	11	14	18	17	19	19
ORP	SM2580B	-900	mV	366.9	250.5	85.1	173.4	125	173	223.5
DO	SM4500OG	0	ug/L	5330	6520	2390	780	2120	720	1820
pH	SM4500HB	0.00	SU	3.6	4.8	4.7	3.9	5	4.1	4
Specific Conductance	SM2510B	1	uMhos	153	39	76	118	203	55	360
Turbidity	SM2130B	1.00	NTU	12	174	68	21	95	9	12

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

[2] = Hydrogen analyzed at 2 X dilution factor

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: 01/30/13
DATE REPORTED : 02/18/13

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-1	MW-3	MW-4	MW-6	MW-8	Analysis Date	Analyst	Method Code
PH (field measurement), Units			3.6	4.8	4.7	3.9		01/30/13	BF	4500HB-00
BOD, mg/l	2.0	2.0	--- U	--- U	--- U	--- U		01/30/13	TRB	5210B-01
COD, mg/l	20.0	20.0	--- U	--- U	--- U	--- U		02/05/13	TRB	H8000-79
Nitrate Nitrogen as N, mg/l	0.03	10.0	12.12	1.59 J	--- U	3.33 J		02/01/13	ANO	353.2 R2-9
Total Organic Carbon, mg/l	0.30	1.0	--- U	2.32	6.46	1.07		01/31/13	SEJ	5310C-00
Total Alkalinity (to pH 4.5),mg/l	1.0	1.0	--- U	6	14	2		01/31/13	TRB	2320B-97
Chloride, mg/l	5.0	5.0	22	12	18	5		01/31/13	HMB	4500CLB-97
Sulfate, mg/l	5.0	250.0	5.8 J	5.3 J	9.3 J	10.8 J		02/04/13	TRB	4500SO42E9
Antimony, ug/l	0.02	6.0	0.46 J	0.08 J	0.11 J	0.13 J		02/05/13	LFJ	EPA200.8
Arsenic, ug/l	0.13	10.0	0.29 J	3.7 J	1.9 J	0.46 J		02/05/13	LFJ	EPA200.8
Barium, ug/l	0.07	100.0	109	43.5 J	36.0 J	50.8 J		02/05/13	LFJ	EPA200.8
Beryllium, ug/l	0.07	1.0	0.20 J	0.18 J	0.09 J	0.10 J		02/05/13	LFJ	EPA200.8
Cadmium, ug/l	0.03	1.0	0.12 J	0.05 J	0.16 J	0.12 J		02/05/13	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	3.3 J	0.54 J	0.68 J	0.62 J		02/05/13	LFJ	EPA200.8
Copper, ug/l	0.06	10.0	0.30 J	0.88 J	1.3 J	0.59 J		02/05/13	LFJ	EPA200.8
Total Chromium, ug/l	0.18	10.0	0.38 J	3.9 J	2.6 J	--- U		02/05/13	LFJ	EPA200.8
Iron, ug/l	15.9	300.0	1202	24980	7935	2541		02/13/13	ADD	3111B-99
Lead, ug/l	0.08	10.0	1.4 J	2.2 J	2.0 J	0.89 J		02/05/13	LFJ	EPA200.8
Mercury, ug/l	0.02	0.20	--- U	0.03 J	0.03 J	--- U		02/05/13	LFJ	EPA2020A
Nickel, ug/l	0.06	50.0	4.3 J	1.2 J	1.5 J	1.1 J		02/05/13	LFJ	EPA200.8
Selenium, ug/l	0.17	10.0	--- U	0.43 J	0.45 J	0.50 J		02/05/13	LFJ	EPA200.8
Silver, ug/l	0.10	10.0	--- U	--- U	--- U	--- U		02/05/13	LFJ	EPA200.8
Thallium, ug/l	0.07	5.5	--- U	--- U	--- U	0.15 J		02/05/13	LFJ	EPA200.8
Vanadium, ug/l	0.10	25.0	1.4 J	8.4 J	6.6 J	1.1 J		02/05/13	LFJ	EPA200.8
Zinc, ug/l	0.48	10.0	19	45	24	9.1 J		02/05/13	LFJ	EPA200.8
Turbidity, NTU	1.0	1.0	12	174	68	21		01/30/13	BF	2130B-01
Sulfide, ug/l	100	1000	--- U	--- U	--- U	--- U		01/30/13	LFJ	4500S2D-00
Conductivity (at 25c), uMhos/cm	1.0	1.0	153	39	76	118		01/30/13	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	5.33	6.52	2.39	0.78		01/30/13	BF	4500OG-01
Temperature, °C			18	11	14	18		01/30/13	BF	2550B-00
Static Water Level, feet			18.43	5.28	5.15	11.99	21.40	01/30/13	BF	
Well Depth, feet			38.94	15.82	15.84	16.96		01/30/13	BF	
Carbon Dioxide, mg/l	1.0	1.0	28	27	94	178		01/31/13	TRB	4500CO2C
ORP, mv			+366.9	+250.5	+85.1	+173.4		01/30/13	BF	2580B

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: 01/30/13
DATE REPORTED : 02/18/13

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-9	MW-10	MW-11	MW-12	Analysis Date	Analyst	Method Code
PH (field measurement), Units			5.0		4.1	4.0	01/30/13	BF	4500HB-00
BOD, mg/l	2.0	2.0	--- U		--- U	--- U	01/30/13	TRB	5210B-01
COD, mg/l	20.0	20.0	--- U		--- U	36	02/05/13	TRB	H8000-79
Nitrate Nitrogen as N, mg/l	0.03	10.0	2.96 J		2.21 J	--- U	02/01/13	ANO	353.2 R2-93
Total Organic Carbon, mg/l	0.30	1.0	4.04		--- U	12.16	01/31/13	SEJ	5310C-00
Total Alkalinity (to pH 4.5),mg/l	1.0	1.0	30		--- U	--- U	01/31/13	TRB	2320B-97
Chloride, mg/l	5.0	5.0	16		7	60	01/31/13	HMB	4500CLB-97
Sulfate, mg/l	5.0	250.0	37.1 J		5.4 J	54.2 J	02/04/13	TRB	4500SO42E97
Antimony, ug/l	0.02	6.0	--- U		0.13 J		02/05/13	LFJ	EPA200.8
Antimony, ug/l	0.02	6.0				0.05 J	02/07/13	LFJ	EPA200.8
Arsenic, ug/l	0.13	10.0	4.9 J		0.16 J		02/05/13	LFJ	EPA200.8
Arsenic, ug/l	0.13	10.0				0.77 J	02/07/13	LFJ	EPA200.8
Barium, ug/l	1.51	100.0	101		31.4 J		02/05/13	LFJ	EPA200.8
Barium, ug/l	1.51	100.0				179	02/08/13	LFJ	EPA200.7
Beryllium, ug/l	0.07	1.0	0.27 J		--- U		02/05/13	LFJ	EPA200.8
Beryllium, ug/l	0.07	1.0				0.34 J	02/07/13	LFJ	EPA200.8
Cadmium, ug/l	0.03	1.0	0.41 J		0.52 J		02/05/13	LFJ	EPA200.8
Cadmium, ug/l	0.03	1.0				0.50 J	02/07/13	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	9.0 J		0.24 J		02/05/13	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0				5.0 J	02/07/13	LFJ	EPA200.8
Copper, ug/l	0.06	10.0	0.42 J		0.36 J		02/05/13	LFJ	EPA200.8
Copper, ug/l	0.06	10.0				0.62 J	02/07/13	LFJ	EPA200.8
Total Chromium, ug/l	0.18	10.0	0.46 J		--- U		02/05/13	LFJ	EPA200.8
Total Chromium, ug/l	0.18	10.0				0.29 J	02/07/13	LFJ	EPA200.8
Iron, ug/l	15.9	300.0	17070		560	651	02/13/13	ADD	3111B-99
Lead, ug/l	0.08	10.0	0.72 J		0.21 J		02/05/13	LFJ	EPA200.8
Lead, ug/l	0.08	10.0				0.13 J	02/07/13	LFJ	EPA200.8
Mercury, ug/l	0.02	0.20	0.98		0.02 J		02/05/13	LFJ	EPA2020A
Mercury, ug/l	0.02	0.20				0.15 J	02/07/13	LFJ	EPA2020A
Nickel, ug/l	0.06	50.0	3.6 J		0.95 J		02/05/13	LFJ	EPA200.8
Nickel, ug/l	0.06	50.0				6.7 J	02/07/13	LFJ	EPA200.8
Selenium, ug/l	0.17	10.0	0.62 J		--- U		02/05/13	LFJ	EPA200.8
Selenium, ug/l	0.17	10.0				2.6 J	02/07/13	LFJ	EPA200.8
Silver, ug/l	0.68	10.0	--- U		--- U		02/05/13	LFJ	EPA200.8
Silver, ug/l	0.68	10.0				--- U	02/08/13	LFJ	EPA200.7
Thallium, ug/l	0.07	5.5	0.22 J		--- U		02/05/13	LFJ	EPA200.8
Thallium, ug/l	0.07	5.5				0.16 J	02/07/13	LFJ	EPA200.8
Vanadium, ug/l	0.10	25.0	2.8 J		0.78 J		02/05/13	LFJ	EPA200.8
Vanadium, ug/l	0.10	25.0				0.87 J	02/07/13	LFJ	EPA200.8
Zinc, ug/l	0.48	10.0	15		5.6 J		02/05/13	LFJ	EPA200.8
Zinc, ug/l	0.48	10.0				5.5 J	02/07/13	LFJ	EPA200.8
Turbidity, NTU	1.0	1.0	95		9	12	01/30/13	BF	2130B-01
Sulfide, ug/l	100	1000	--- U		--- U	--- U	01/30/13	LFJ	4500S2D-00
Conductivity (at 25c), uMhos/cm	1.0	1.0	203		55	360	01/30/13	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	2.12		0.72	1.82	01/30/13	BF	4500OG-01
Temperature, °C			17		19	19	01/30/13	BF	2550B-00
Static Water Level, feet			5.44	23.00	13.14	16.10	01/30/13	BF	
Well Depth, feet			21.82		35.61	38.39	01/30/13	BF	
Carbon Dioxide, mg/l	1.0	1.0	238		55	477	01/31/13	TRB	4500CO2C
ORP, mv			+125.0		+173.0	+223.5	01/30/13	BF	2580B

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: 01/30/13
DATE ANALYZED: 02/05/13
DATE REPORTED: 02/18/13

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

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

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

Environment 1, 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: 01/30/13
DATE ANALYZED: 02/05/13
DATE REPORTED: 02/18/13

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	MW-11	MW-12
1. Chloromethane	0.77	1.0	--- U	--- U
2. Vinyl Chloride	0.63	1.0	0.80 J	--- 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	0.30 J
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

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

CHAIN OF CUSTODY RECORD

CLIENT: 6009 **Week: 8**

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

(252) 566-4194

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

CHLORINE NEUTRALIZED AT COLLECTION																			
pH CHECK (LAB)			<2		<2				<2		>9					<2			
CONTAINER TYPE, P/G	P	P	P	P	P	P	P	P	P	P	P	P	P	P		G			
CHEMICAL PRESERVATION	A	A	C	A	C	A	A	A	A	A	F	A	A	A		E			

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	BOD	COD	Nitrate	TOC	Alkalinity	Chloride	Sulfate	Metals	Turbidity	Sulfide	Conductivity	DO	Temperature	Field Parameter	EPA 8260B	PARAMETERS
MW-1	1-30-13	1400		18	14	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
MW-3	1-30-13	1000		11	13	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
MW-4	1-30-13	0920		14	13	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
MW-6	1-30-13	1300		18	13	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
MW-8	1-30-13				1															G		
MW-9	1-30-13	1040		17	13	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
MW-10	1-30-13				1															G		
MW-11	1-30-13	1220		19	13	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
MW-12	1-30-13	1135		19	13	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE/NAOH
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) Bobby / Jerry

SAMPLES RECEIVED IN LAB AT 1.04 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fox	1-30-13 1549		1/30/13 3:00
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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.

FORM #5

№ 256950

Environment 1, Inc.
P.O. Box 7635, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6009 **Week: 8**

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

(252) 566-4194

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	8260 Dup. 1	8260 Dup. 2	CO2	ORP
						22	22		
						G	G	P	P
						E	E	A	A
MW-1	1-30-13	1400		18	14	G	G	G	G
MW-3	1-30-13	1000		11	13	G		G	G
MW-4	1-30-13	0920		14	13	G		G	G
MW-6	1-30-13	1300		18	13	G		G	G
MW-8	1-30-13				1				
MW-9	1-30-13	1040		17	13	G		G	G
MW-10	1-30-13				1				
MW-11	1-30-13	1220		19	13	G		G	G
MW-12	1-30-13	1135		19	13	G		G	G

PARAMETERS

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE/NAOH
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)
Bobby / Jerry

SAMPLES RECEIVED IN LAB AT 02 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fox	1-30-13 1549	[signature]	1/31/13 400
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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.

FORM #5

№ 256949

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: 01/30/13
DATE REPORTED : 02/20/13

REVIEWED BY:

PARAMETERS	MDL	SWSL	SW-1	SW-3	Analysis Date	Analyst	Method Code
PH (field measurement), Units			5.4	5.4	01/30/13	BF	4500HB-00
Antimony, ug/l	0.02	6.0	0.05 J	0.06 J	02/07/13	LFJ	EPA200.8
Arsenic, ug/l	0.13	10.0	0.95 J	0.80 J	02/07/13	LFJ	EPA200.8
Barium, ug/l	0.07	100.0	42.0 J	44.9 J	02/13/13	CMF	EPA200.8
Beryllium, ug/l	0.07	1.0	0.14 J	--- U	02/07/13	LFJ	EPA200.8
Cadmium, ug/l	0.03	1.0	--- U	--- U	02/07/13	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	0.91 J	0.25 J	02/07/13	LFJ	EPA200.8
Copper, ug/l	0.06	10.0	0.69 J	0.59 J	02/07/13	LFJ	EPA200.8
Total Chromium, ug/l	0.18	10.0	0.18 J	--- U	02/07/13	LFJ	EPA200.8
Lead, ug/l	0.08	10.0	0.48 J	0.26 J	02/07/13	LFJ	EPA200.8
Nickel, ug/l	0.06	50.0	1.5 J	0.68 J	02/07/13	LFJ	EPA200.8
Selenium, ug/l	0.17	10.0	--- U	--- U	02/07/13	LFJ	EPA200.8
Silver, ug/l	0.10	10.0	--- U	--- U	02/13/13	CMF	EPA200.8
Thallium, ug/l	0.07	5.5	--- U	--- U	02/07/13	LFJ	EPA200.8
Vanadium, ug/l	0.10	25.0	0.93 J	0.30 J	02/07/13	LFJ	EPA200.8
Zinc, ug/l	0.48	10.0	22	5.6 J	02/07/13	LFJ	EPA200.8
Turbidity, NTU	1.0	1.0	26	5	01/30/13	BF	2130B-01
Conductivity (at 25c), uMhos/cm	1.0	1.0	101	90	01/30/13	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	9.29	8.85	01/30/13	BF	4500OG-01
Temperature, °C			11	14	01/30/13	BF	2550B-00
ORP, mv			+195.6	+275.2	01/30/13	BF	2580B

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: 01/30/13
DATE ANALYZED: 02/08/13
DATE REPORTED: 02/20/13

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

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

CHAIN OF CUSTODY RECORD

CLIENT: 6009 A **Week:** 8

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

(252) 566-4194

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Metals	Turbidity	Conductivity	DO	Temperature	EPA 8260B	8260 Dup. 1	8260 Dup. 2	ORP
CHLORINE NEUTRALIZED AT COLLECTION															
pH CHECK (LAB)							12					12	12	12	
CONTAINER TYPE, P/G						P	P	P	P	P	P	G	G	G	P
CHEMICAL PRESERVATION						A	A	A	A	A	A	E	E	E	A
SW-1	1-30-13	1055		11	5	G	G	G	G	G	G	G	G	G	G
SW-3	1-30-13	1310		14	5	G	G	G	G	G	G	G	G	G	G

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE/NAOH
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)
Bobby / Jerry

SAMPLES RECEIVED IN LAB AT 0.4 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fox	1-30-13 1549	[illegible]	1/30/13 1400
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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.

FORM #5

№ 256948

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

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

DATE COLLECTED: 01/29/13
DATE REPORTED : 02/18/13

REVIEWED BY:

PARAMETERS	MDL	SWSL	Equipment Blank	Trip Blank	Field Blank	Analysis Date	Analyst	Method Code
Antimony, ug/l	0.02	6.0	--- U		--- U	02/05/13	LFJ	EPA200.8
Arsenic, ug/l	0.13	10.0	--- U		0.19 J	02/05/13	LFJ	EPA200.8
Barium, ug/l	0.07	100.0	0.55 J		0.16 J	02/05/13	LFJ	EPA200.8
Beryllium, ug/l	0.07	1.0	--- U		--- U	02/05/13	LFJ	EPA200.8
Cadmium, ug/l	0.03	1.0	--- U		--- U	02/05/13	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	--- U		--- U	02/05/13	LFJ	EPA200.8
Copper, ug/l	0.06	10.0	0.18 J		0.38 J	02/05/13	LFJ	EPA200.8
Total Chromium, ug/l	0.18	10.0	--- U		0.44 J	02/05/13	LFJ	EPA200.8
Lead, ug/l	0.08	10.0	--- U		--- U	02/05/13	LFJ	EPA200.8
Mercury, ug/l	0.02	0.20	--- U			02/05/13	LFJ	EPA2020A
Nickel, ug/l	0.06	50.0	0.34 J		0.21 J	02/05/13	LFJ	EPA200.8
Selenium, ug/l	0.17	10.0	--- U		--- U	02/05/13	LFJ	EPA200.8
Silver, ug/l	0.10	10.0	--- U		--- U	02/05/13	LFJ	EPA200.8
Thallium, ug/l	0.07	5.5	--- U		--- U	02/05/13	LFJ	EPA200.8
Vanadium, ug/l	0.10	25.0	0.16 J		--- U	02/05/13	LFJ	EPA200.8
Zinc, ug/l	0.48	10.0	5.3 J		2.4 J	02/05/13	LFJ	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

ANALYST: MAO
DATE COLLECTED: 01/29/13
DATE ANALYZED: 01/30/13
DATE REPORTED: 02/18/13

REVIEWED BY:

VOLATILE ORGANICS
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-Dichlorosthene	0.25	5.0	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- 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. Tetrachloroethens	0.17	1.0	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U

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

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: 6010 **Week: 8**

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

(252) 566-4194

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Metals	EPA 8260B	8260 Dup. 1
						12/12/12		
						P	G	G
						A	E	E
Equipment Blank	1-29-13	0910			3	G	G	G
Trip Blank	1-29-13				2		G	G
Field Blank	1-29-13	0910			3	G	G	G

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE/NAOH
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)
Bobby / Jerry

SAMPLES RECEIVED IN LAB AT 0.8 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fox	1-29-13 1330	[signature]	1/29/13 1:30p
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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.

№ 256946

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

February 15, 2013

Steve Jones
Environment 1, Inc.
PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

RE: **LENOIR COUNTY**
Microseeps Workorder: 7987

Dear Steve Jones:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, February 01, 2013. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Robbin Robi 02/15/2013 C.t. 2-18-13
rrobi@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email info@microseeps.com.

Total Number of Pages 21

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LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste
Accreditor:	NELAP: State of Florida, Department of Health, Bureau of Laboratories
Accreditation ID:	E87832
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: State of Louisiana, Department of Environmental Quality
Accreditation ID:	04104
Scope:	Solid and Chemical Materials; Non-Potable Water
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water; Solid and Chemical Materials
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water; Solid and Hazardous Waste
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

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SAMPLE SUMMARY

Workorder: 7987 LENOIR COUNTY

Lab ID	Sample ID	Matrix	Date Collected	Date Received
79870001	MW1	Water	1/30/2013 14:00	2/1/2013 11:00
79870002	MW1	Bubble Strip	1/30/2013 14:00	2/1/2013 11:00
79870003	MW3	Water	1/30/2013 10:00	2/1/2013 11:00
79870004	MW3	Bubble Strip	1/30/2013 10:00	2/1/2013 11:00
79870005	MW4	Water	1/30/2013 09:20	2/1/2013 11:00
79870006	MW4	Bubble Strip	1/30/2013 09:20	2/1/2013 11:00
79870007	MW6	Water	1/30/2013 13:00	2/1/2013 11:00
79870008	MW6	Bubble Strip	1/30/2013 13:00	2/1/2013 11:00
79870009	MW9	Water	1/30/2013 10:40	2/1/2013 11:00
79870010	MW9	Bubble Strip	1/30/2013 10:40	2/1/2013 11:00
79870011	MW11	Water	1/30/2013 12:20	2/1/2013 11:00
79870012	MW11	Bubble Strip	1/30/2013 12:20	2/1/2013 11:00
79870013	MW12	Water	1/30/2013 11:35	2/1/2013 11:00
79870014	MW12	Bubble Strip	1/30/2013 11:35	2/1/2013 11:00

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PROJECT SUMMARY

Workorder: 7987 LENOIR COUNTY

Batch Comments

Batch: EDON/1656 - Low Level Volatile Fatty Acids

The matrix spike and/or matrix spike duplicate, recovery or relative percent difference; accuracy influenced by the concentration of the reference sample, 79700001. Analyte Lactic and Acetic acids. Batch acceptance based on laboratory control sample recovery.

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870001 Date Received: 2/1/2013 11:00 Matrix: Water
Sample ID: MW1 Date Collected: 1/30/2013 14:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.037J	mg/l	0.10	0.032	1			2/6/2013 20:12	KB	
Acetic Acid	0.070 U	mg/l	0.070	0.021	1			2/6/2013 20:12	KB	
Propionic Acid	0.050 U	mg/l	0.050	0.0040	1			2/6/2013 20:12	KB	
Butyric Acid	0.050 U	mg/l	0.050	0.0070	1			2/6/2013 20:12	KB	
Pyruvic Acid	0.15 U	mg/l	0.15	0.0040	1			2/6/2013 20:12	KB	
i-Pentanoic Acid	0.15 U	mg/l	0.15	0.012	1			2/6/2013 20:12	KB	
Pentanoic Acid	0.070 U	mg/l	0.070	0.010	1			2/6/2013 20:12	KB	
i-Hexanoic Acid	0.050 U	mg/l	0.050	0.013	1			2/6/2013 20:12	KB	
Hexanoic Acid	0.10 U	mg/l	0.10	0.039	1			2/6/2013 20:12	KB	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870002 Date Received: 2/1/2013 11:00 Matrix: Bubble Strip
Sample ID: MW1 Date Collected: 1/30/2013 14:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX				Analytical Method: AM20GAX						
Methane	0.92	ug/l	0.015	0.0020	1			2/8/2013 09:43	GT	
Ethane	0.0015J	ug/l	0.010	0.0010	1			2/8/2013 09:43	GT	
Ethene	0.010 U	ug/l	0.010	0.0070	1			2/8/2013 09:43	GT	
Hydrogen	0.61J	nM	1.2	0.15	2			2/13/2013 11:54	GT	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870003 Date Received: 2/1/2013 11:00 Matrix: Water
Sample ID: MW3 Date Collected: 1/30/2013 10:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.10 U	mg/l	0.10	0.032	1			2/6/2013 20:55	KB	
Acetic Acid	0.070 U	mg/l	0.070	0.021	1			2/6/2013 20:55	KB	
Propionic Acid	0.050 U	mg/l	0.050	0.0040	1			2/6/2013 20:55	KB	
Butyric Acid	0.050 U	mg/l	0.050	0.0070	1			2/6/2013 20:55	KB	
Pyruvic Acid	0.15 U	mg/l	0.15	0.0040	1			2/6/2013 20:55	KB	
I-Pentanoic Acid	0.15 U	mg/l	0.15	0.012	1			2/6/2013 20:55	KB	
Pentanoic Acid	0.070 U	mg/l	0.070	0.010	1			2/6/2013 20:55	KB	
I-Hexanoic Acid	0.050 U	mg/l	0.050	0.013	1			2/6/2013 20:55	KB	
Hexanoic Acid	0.10 U	mg/l	0.10	0.039	1			2/6/2013 20:55	KB	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870004 Date Received: 2/1/2013 11:00 Matrix: Bubble Strip
Sample ID: MW3 Date Collected: 1/30/2013 10:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	0.51	ug/l	0.015	0.0020	1			2/8/2013 09:55	GT	
Ethane	0.0017J	ug/l	0.010	0.0010	1			2/8/2013 09:55	GT	
Ethene	0.010 U	ug/l	0.010	0.0070	1			2/8/2013 09:55	GT	
Hydrogen	0.52J	nM	1.2	0.15	2			2/13/2013 12:06	GT	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870005 Date Received: 2/1/2013 11:00 Matrix: Water
Sample ID: MW4 Date Collected: 1/30/2013 09:20

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.037J	mg/l	0.10	0.032	1			2/6/2013 21:37	KB	
Acetic Acid	0.070 U	mg/l	0.070	0.021	1			2/6/2013 21:37	KB	
Propionic Acid	0.050 U	mg/l	0.050	0.0040	1			2/6/2013 21:37	KB	
Butyric Acid	0.050 U	mg/l	0.050	0.0070	1			2/6/2013 21:37	KB	
Pyruvic Acid	0.15 U	mg/l	0.15	0.0040	1			2/6/2013 21:37	KB	
I-Pentanoic Acid	0.15 U	mg/l	0.15	0.012	1			2/6/2013 21:37	KB	
Pentanoic Acid	0.070 U	mg/l	0.070	0.010	1			2/6/2013 21:37	KB	
I-Hexanoic Acid	0.050 U	mg/l	0.050	0.013	1			2/6/2013 21:37	KB	
Hexanoic Acid	0.10 U	mg/l	0.10	0.039	1			2/6/2013 21:37	KB	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870006 Date Received: 2/1/2013 11:00 Matrix: Bubble Strip

Sample ID: MW4 Date Collected: 1/30/2013 09:20

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	430	ug/l	0.015	0.0020	1			2/8/2013 10:07	GT	
Ethane	0.010 U	ug/l	0.010	0.0010	1			2/8/2013 10:07	GT	
Ethene	0.010 U	ug/l	0.010	0.0070	1			2/8/2013 10:07	GT	
Hydrogen	0.69J	nM	1.2	0.15	2			2/13/2013 12:19	GT	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870007 Date Received: 2/1/2013 11:00 Matrix: Water
Sample ID: MW6 Date Collected: 1/30/2013 13:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.034J	mg/l	0.10	0.032	1			2/6/2013 22:19	KB	
Acetic Acid	0.070 U	mg/l	0.070	0.021	1			2/6/2013 22:19	KB	
Propionic Acid	0.050 U	mg/l	0.050	0.0040	1			2/6/2013 22:19	KB	
Butyric Acid	0.050 U	mg/l	0.050	0.0070	1			2/6/2013 22:19	KB	
Pyruvic Acid	0.15 U	mg/l	0.15	0.0040	1			2/6/2013 22:19	KB	
i-Pentanoic Acid	0.15 U	mg/l	0.15	0.012	1			2/6/2013 22:19	KB	
Pentanoic Acid	0.070 U	mg/l	0.070	0.010	1			2/6/2013 22:19	KB	
i-Hexanoic Acid	0.050 U	mg/l	0.050	0.013	1			2/6/2013 22:19	KB	
Hexanoic Acid	0.10 U	mg/l	0.10	0.039	1			2/6/2013 22:19	KB	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870008 Date Received: 2/1/2013 11:00 Matrix: Bubble Strip

Sample ID: MW6 Date Collected: 1/30/2013 13:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	960	ug/l	0.015	0.0020	1			2/8/2013 10:20	GT	
Ethane	0.0086J	ug/l	0.010	0.0010	1			2/8/2013 10:20	GT	
Ethene	0.010 U	ug/l	0.010	0.0070	1			2/8/2013 10:20	GT	
Hydrogen	0.59J	nM	1.2	0.15	2			2/13/2013 12:33	GT	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870009 Date Received: 2/1/2013 11:00 Matrix: Water
Sample ID: MW9 Date Collected: 1/30/2013 10:40

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.10 U	mg/l	0.10	0.032	1			2/6/2013 23:01	KB	
Acetic Acid	0.047J	mg/l	0.070	0.021	1			2/6/2013 23:01	KB	
Propionic Acid	0.050 U	mg/l	0.050	0.0040	1			2/6/2013 23:01	KB	
Butyric Acid	0.050 U	mg/l	0.050	0.0070	1			2/6/2013 23:01	KB	
Pyruvic Acid	0.15 U	mg/l	0.15	0.0040	1			2/6/2013 23:01	KB	
i-Pentanoic Acid	0.15 U	mg/l	0.15	0.012	1			2/6/2013 23:01	KB	
Pentanoic Acid	0.070 U	mg/l	0.070	0.010	1			2/6/2013 23:01	KB	
i-Hexanoic Acid	0.050 U	mg/l	0.050	0.013	1			2/6/2013 23:01	KB	
Hexanoic Acid	0.10 U	mg/l	0.10	0.039	1			2/6/2013 23:01	KB	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870010 Date Received: 2/1/2013 11:00 Matrix: Bubble Strip
Sample ID: MW9 Date Collected: 1/30/2013 10:40

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	46	ug/l	0.015	0.0020	1			2/8/2013 10:32	GT	
Ethane	0.022	ug/l	0.010	0.0010	1			2/8/2013 10:32	GT	
Ethene	0.0080J	ug/l	0.010	0.0070	1			2/8/2013 10:32	GT	
Hydrogen	1.1J	nM	1.2	0.15	2			2/13/2013 12:46	GT	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870011 Date Received: 2/1/2013 11:00 Matrix: Water
Sample ID: MW11 Date Collected: 1/30/2013 12:20

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.10 U	mg/l	0.10	0.032	1			2/6/2013 23:43	KB	
Acetic Acid	0.070 U	mg/l	0.070	0.021	1			2/6/2013 23:43	KB	
Propionic Acid	0.050 U	mg/l	0.050	0.0040	1			2/6/2013 23:43	KB	
Butyric Acid	0.050 U	mg/l	0.050	0.0070	1			2/6/2013 23:43	KB	
Pyruvic Acid	0.15 U	mg/l	0.15	0.0040	1			2/6/2013 23:43	KB	
i-Pentanoic Acid	0.15 U	mg/l	0.15	0.012	1			2/6/2013 23:43	KB	
Pentanoic Acid	0.070 U	mg/l	0.070	0.010	1			2/6/2013 23:43	KB	
i-Hexanoic Acid	0.050 U	mg/l	0.050	0.013	1			2/6/2013 23:43	KB	
Hexanoic Acid	0.10 U	mg/l	0.10	0.039	1			2/6/2013 23:43	KB	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870012 Date Received: 2/1/2013 11:00 Matrix: Bubble Strip
Sample ID: MW11 Date Collected: 1/30/2013 12:20

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	690	ug/l	0.015	0.0020	1			2/8/2013 10:45	GT	
Ethane	0.024	ug/l	0.010	0.0010	1			2/8/2013 10:45	GT	
Ethene	0.0080J	ug/l	0.010	0.0070	1			2/8/2013 10:45	GT	
Hydrogen	0.54J	nM	1.2	0.15	2			2/13/2013 12:58	GT	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870013 Date Received: 2/1/2013 11:00 Matrix: Water

Sample ID: MW12 Date Collected: 1/30/2013 11:35

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.043J	mg/l	0.10	0.032	1			2/7/2013 00:25	KB	
Acetic Acid	0.030J	mg/l	0.070	0.021	1			2/7/2013 00:25	KB	
Propionic Acid	0.050 U	mg/l	0.050	0.0040	1			2/7/2013 00:25	KB	
Butyric Acid	0.050 U	mg/l	0.050	0.0070	1			2/7/2013 00:25	KB	
Pyruvic Acid	0.15 U	mg/l	0.15	0.0040	1			2/7/2013 00:25	KB	
i-Pentanoic Acid	0.15 U	mg/l	0.15	0.012	1			2/7/2013 00:25	KB	
Pentanoic Acid	0.070 U	mg/l	0.070	0.010	1			2/7/2013 00:25	KB	
i-Hexanoic Acid	0.050 U	mg/l	0.050	0.013	1			2/7/2013 00:25	KB	
Hexanoic Acid	0.10 U	mg/l	0.10	0.039	1			2/7/2013 00:25	KB	

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ANALYTICAL RESULTS

Workorder: 7987 LENOIR COUNTY

Lab ID: 79870014 Date Received: 2/1/2013 11:00 Matrix: Bubble Strip

Sample ID: MW12 Date Collected: 1/30/2013 11:35

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	630	ug/l	0.015	0.0020	1			2/8/2013 10:57	GT	
Ethane	0.012	ug/l	0.010	0.0010	1			2/8/2013 10:57	GT	
Ethene	0.092	ug/l	0.010	0.0070	1			2/8/2013 10:57	GT	
Hydrogen	0.51J	nM	1.2	0.15	2			2/13/2013 13:10	GT	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 7987 LENOIR COUNTY

PARAMETER QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation 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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Microseeps Lab. Proj. # 7987

CHAIN - OF - CUSTODY RECORD

Microseeps 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 OAKMONT DR, GREENVILLE, NC 27858

Phone # : 252-756-6208 Fax # : 252-756-0633

Proj. Manager : STEVE JONES

Proj. Name/Number : LENOIR COUNTY

Sampler's signature : Bobby Fox

Cooler Temp. 1°C

Results to : SAME

Invoice to : SAME

Parameters Requested: HYDROGEN, METHANE/ETHANE/ETHENE, LLVFA

	Sample ID	Sample Description	Sample Type Water	Vapor	Solid	Date	Time	# Bottles	HYDROGEN	METHANE/ETHANE/ETHENE	LLVFA	Remarks :
1	MW 1	MW 1	X	X		1/30/13	1400	5	X	X	X	
2	MW 3	MW 3	X	X			1000	5	X	X	X	
3	MW 4	MW 4	X	X			0920	5	X	X	X	FACILITY ID# 5403
4	MW 6	MW 6	X	X			1300	5	X	X	X	
5	MW 9	MW 9	X	X			1040	5	X	X	X	
6	MW 11	MW 11	X	X			1220	5	X	X	X	
7	MW 12	MW 12	X	X		↓	1135	5	X	X	X	

Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Bobby Fox	ENVIRONMENT 1	1-30-13	1600	[illegible]	ENVIRONMENT 1	1/30/13	1600
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
[illegible]	ENVIRONMENT 1	1/31/13	0930	[illegible]	MS	2-1-13	1100
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :

WHITE COPY : Accompany Samples YELLOW COPY : Laboratory File PINK COPY : Submitter

Cooler Receipt Form

Client Name: Environment 1 Project: Lenoir County Lab Work Order: 7987

A. Shipping/Container Information (circle appropriate response)

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

Tracking Number: 1Z 2037 0501 6328 2052

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: 1°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: HCY Date: 2-1-13

Project Manager Review: RR Date: 2/1/13

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

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

REVIEWED BY:

CLIENT ID: 6009 C

ANALYST: CHS
DATE COLLECTED: 01/30/13
DATE EXTRACTED: 01/31/13
DATE ANALYZED: 02/08/13
DATE REPORTED: 03/07/13

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

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

J = Between MDL and SWSL, U = Below ALL Quantitation 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 C Week: 8

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

(252) 566-4194

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	EPA 8081B	8081B Duplicate
					CHLORINE NEUTRALIZED AT COLLECTION		
					pH CHECK (LAB)		
					CONTAINER TYPE, P/G	G	G
					CHEMICAL PRESERVATION	A	A
MW-4	1-30-13	0920		14	2	[ ]	[ ]

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE/NAOH
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)
Bobby Fox

SAMPLES RECEIVED IN LAB AT 04 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fox	1-30-13 0549	[signature]	1/30/13 400
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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.

FORM #5

№ 256947