Semi-Annual Water Quality Monitoring Report with Corrective Action Update

Prepared for

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

July 2014

Permit Number: 54-03
MESCO Project Number: G14015.0

Submittal Date: October 13, 2014

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	July 2, 2014

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.

Steven R. Gandy, Ph.D., P.E. Senior Project Manager (919) 772-5393

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

Signature 10/14/14 Date

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA PROFESSIONAL SEAL 031020 ENGINEER STEVEN R. GANDY

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)

October 13, 2014

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
Permit No. 54-03
MESCO Project No. G14015.0
Event Date: July 2, 2014

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 2014 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 2, 2014. Laboratory analytical results indicate that the only constituent detected above applicable regulatory Standards were vinyl chloride in samples MW-4 and MW-11. Corrective action via monitored natural attenuation (MNA) continues to be implemented 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. 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. A topographic map showing the facility location is included as **Figure 1**.

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.

PO Box 97, Garner, North Carolina 27529 (919) 772-5393 PO Box 349, Boone, NC 28607 (828) 262-1767

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 performed on June 25, 2012 and continuation of annual Appendix II monitoring of MW-3 which was performed during this July 2014 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) are also included in this report.

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 indicates samples were transported under C-O-C protocols and analyzed within the specified hold times 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 all of the water samples for at least the constituents listed in Appendix I of 40 CFR 258 and total mercury (an Appendix II constituent). MW-3 and background well MW-1 were tested for the list of analytes listed in Appendix II of 40 CFR 258. Additionally, all collected groundwater samples were analyzed for the MNA performance parameter list specified by SWS. Microseeps Inc. of Pittsburgh, PA performed analysis for the MNA parameters 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

A low "j-qualified" concentration of total lead was the only parameter detected in the blanks (EB and FB). Although the field and/or laboratory induced artifact contamination was identified it is unlikely the data set for the lined landfill has been influenced by false positives or high bias.

Groundwater Samples

Total mercury, an Appendix II heavy metal, was detected in MW-9 (4.1 µg/L) which is above the 2L Standard (1.0 µg/L).

Vinyl chloride was detected in MW-3 (1.9 µg/L) and MW-11 (1.5 µg/L) which is above the 2L Standard (0.3 µg/L).

Surface Water Samples

Samples collected from upstream (SW-3) and downstream (SW-1) of the landfill did not contain target analytes in concentrations above the 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).** Flow direction trends in a general northeasterly direction towards Falling Creek. Groundwater flow rates via modified Darcy's equation ranged from approximately 7 ft/yr in MW-3 to 58 ft/yr in MW-11 and averaged 25 ft/yr. Groundwater flow rates and directions are included in **Table 4.** 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 eleven consecutive semi-annual events. The most recent MNA data is presented in **Table 5.** The data for the two impacted wells (MW-4 and MW-11) was inputted into the Biochlor natural attenuation screening protocol matrix (**Figures 3&4)**. The screening matrix scores were MW-4 (20) and MW-11 (5) which is interpreted as strong evidence of anaerobic biodegredation of chlorinated organics at MW-4 but inadequate evidence of anaerobic biodegredation of chlorinated organics at MW-11.

Findings

Samples collected from MW-11, located within the 250' compliance boundary, contained vinyl chloride in an unprecedented concentration above the 2L Standard. The preliminary source is believed to be anthropogenic with a transport mechanism of either leachate and/or landfill gas.

Samples collected from MW-4, located within the 250' compliance boundary, also contained vinyl chloride in an unprecedented level above the 2L Standard. MW-4 has historically contained the highest levels of VOCs at this facility but all were within allowable levels the previous 2.5 years (5 events). The preliminary source is believed to be anthropogenic with a transport mechanism of either leachate and/or landfill gas. The natural attenuation matrix score indicates strong evidence of biodegredation of chlorinated organics at MW-4.

Total mercury was detected in sample MW-9 at an unprecedented level. Although total mercury levels were elevated it should not be directly compared to 2L Standards which is defined as constituents which are dissolved, colloidal or particulate form which are mobile in groundwater. Metals are tested on the total form (unfiltered) which includes sediment or other particulate matter preserved in a sample container which are immobile in groundwater. The detection of mercury at MW-9 is a suspected anomaly since there is not a trend of historical detections at this facility and MW-9 has always lacked voc detections which are typically more indicative of anthropogenic sources at a landfill. We recommend that MW-9 be tested for both total and dissolved mercury during the next semi-annual event to determine if dissolved (mobile) mercury levels exceed 2L Standards.

Although, not applicable for regulatory compliance none of the detections, except for the suspected anomaly total mercury in MW-9, were in levels above the Federally established primary Drinking Water Standards.

Contamination is not suspected to have migrated beyond the compliance boundary and natural attenuation of the low level contaminants appears to be occurring; therefore, the contingency remediation techniques outlined in the *CAP* are not planned to be initiated at this time.

Closing

Groundwater remediation and semi-annual water quality monitoring will continue at the facility with the next event scheduled for January 2015. 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.

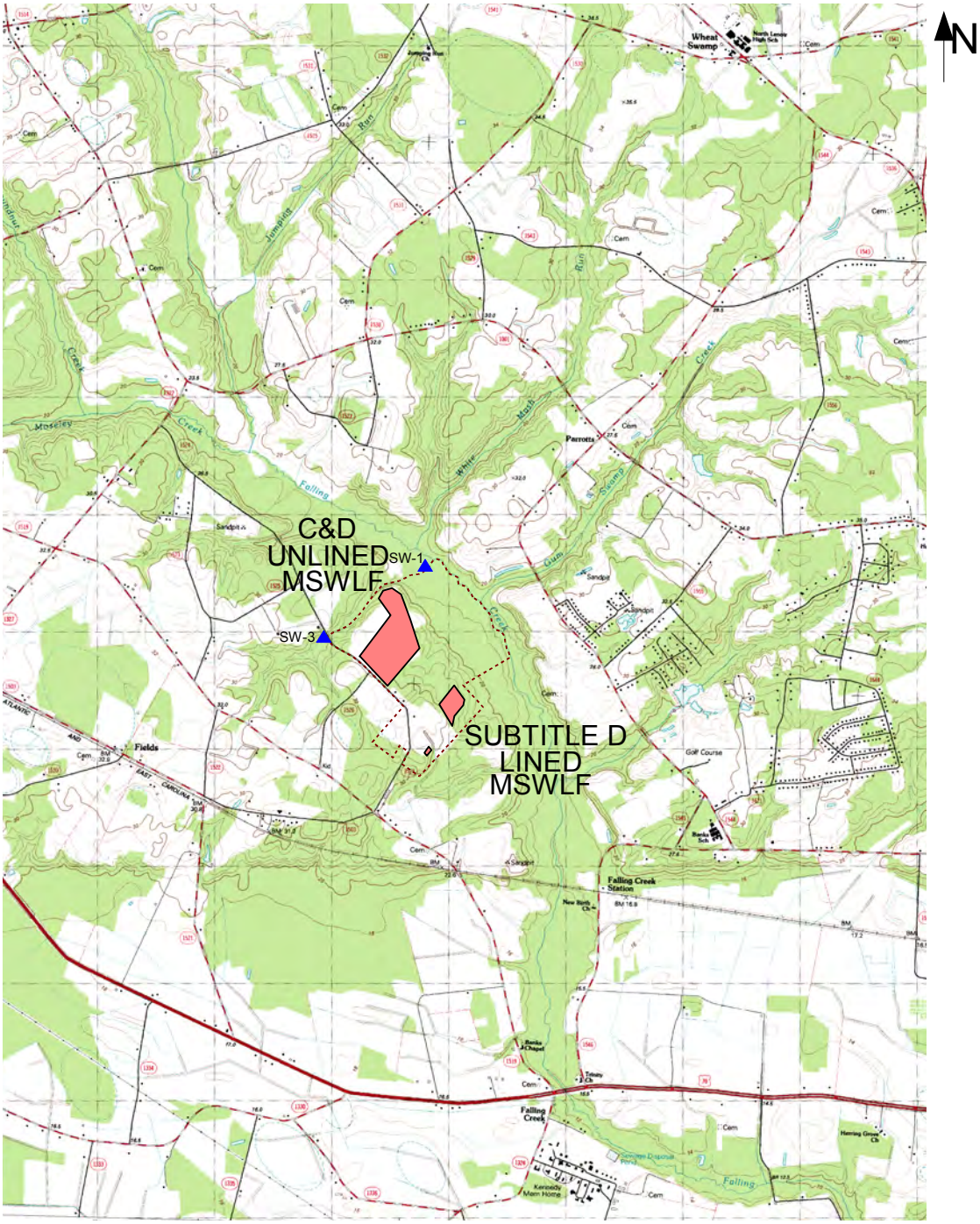
Jonathan Pfohl
Environmental Specialist

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



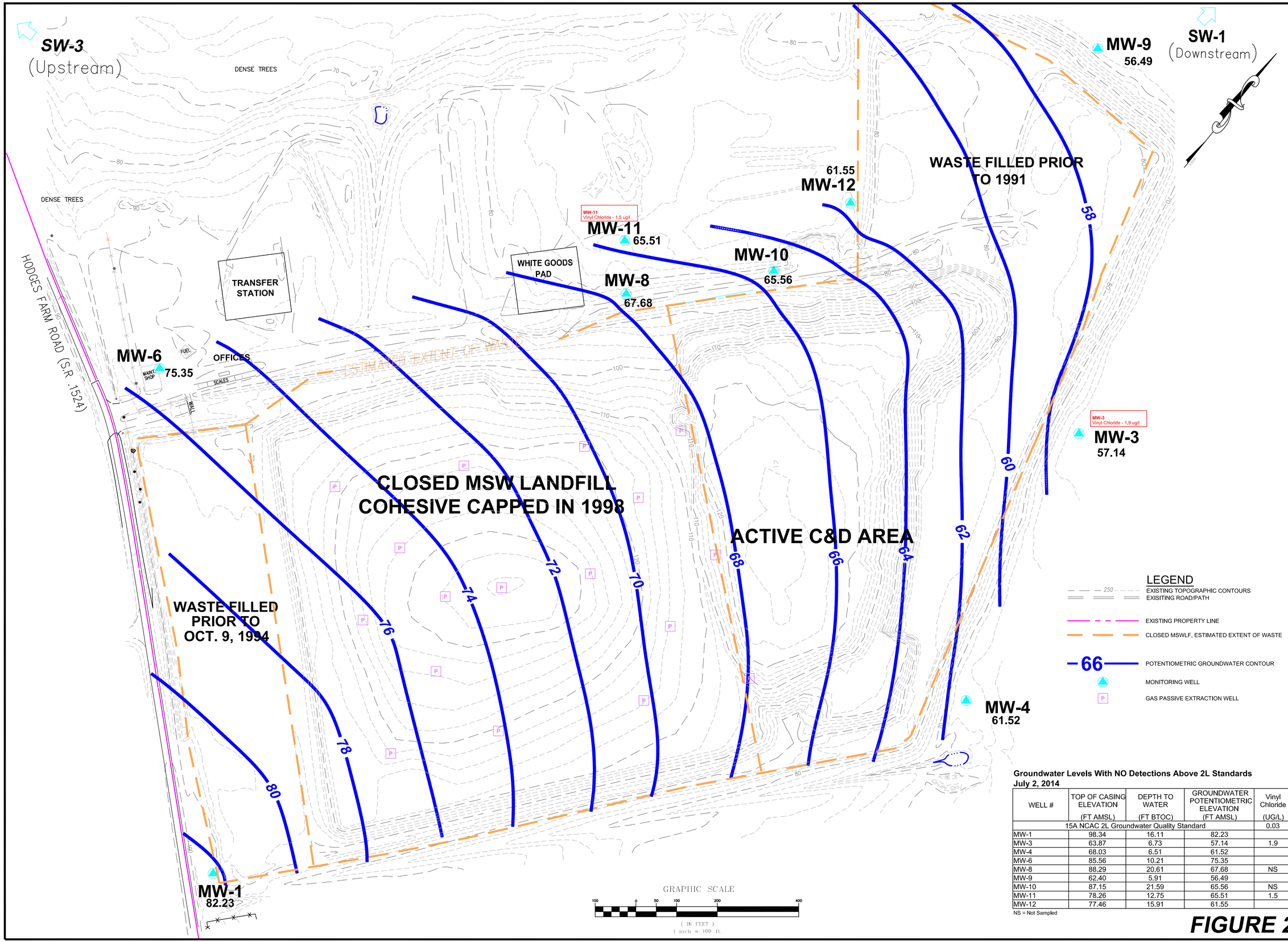
2949 Hodges Farm Rd (SR1524)
LaGrange, NC 28501
Lat:35-17-07.4269
Long:-77-42-32.7453
Northing:561295.59
Easting:2385220.32

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 2, 2014

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				0.03
MW-1	98.34	16.11	82.23	
MW-3	63.87	6.73	57.14	1.9
MW-4	68.03	6.51	61.52	
MW-6	85.56	10.21	75.35	
MW-8	88.29	20.61	67.68	NS
MW-9	62.40	5.91	56.49	
MW-10	87.15	21.59	65.56	NS
MW-11	78.26	12.75	65.51	1.5
MW-12	77.46	15.91	61.55	

NS = Not Sampled

FIGURE 2

Municipal Engineering Services 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

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

DATE	BY	REV.	DESCRIPTION

SCALE:	SEE BAR SCALE
DATE:	10/1/14
DRWN. BY:	J. PFOHL
CHKD. BY:	S. GANDY
PROJECT NUMBER	G14015.0
DRAWING NO.	FIGURE 2
SHEET NO.	1 OF 1

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

* reductive dechlorination

Score: 20

Scroll to End of Table

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	○	
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	◉	○	-3
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	◉	○	3
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	◉	○	3
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	◉	○	1
	<-100mV	Reductive pathway likely	○	○	
pH*	5 < pH < 9	Optimal range for reductive pathway	◉	○	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	◉	○	1
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	◉	○	1
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	◉	○	1
Chloride*	>2x background	Daughter product of organic chlorine	○	◉	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	◉	○	3
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	◉	○	2
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	○	◉	0
TCE*		Daughter product of PCE [a/]	○	◉	0
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE[a/]; 1,1-DCE can be a chem. reaction product of TCA	○	◉	0
VC*		Daughter product of DCE[a/]	◉	○	2
1,1,1-Trichloroethane*		Material released	○	◉	0
DCA		Daughter product of TCA under reducing conditions	○	◉	0
Carbon Tetrachloride		Material released	○	◉	0
Chloroethane*		Daughter product of DCA or VC under reducing conditions	◉	○	2
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	◉	0
Dichloromethane		Daughter product of Chloroform	○	◉	0

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE Reset

End of Form

FIGURE 3

Natural Attenuation Screening Protocol

The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.

Interpretation	Score
Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5
Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14
Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20
Strong evidence for anaerobic biodegradation* of chlorinated organics	>20

* reductive dechlorination

Score: 5

Scroll to End of Table

Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	○	◉	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	◉	○	-3
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	○	◉	0
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	○	◉	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	◉	○	2
Sulfide*	>1 mg/L	Reductive pathway possible	○	◉	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	◉	○	3
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	○	◉	0
	<-100mV	Reductive pathway likely	○	◉	0
pH*	5 < pH < 9	Optimal range for reductive pathway	○	◉	-2
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	○	◉	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	○	◉	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	◉	○	1
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	○	◉	0
Chloride*	>2x background	Daughter product of organic chlorine	○	◉	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	○	◉	0
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	◉	○	2
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	○	◉	0
PCE*		Material released	○	◉	0
TCE*		Daughter product of PCE [a/]	○	◉	0
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE[a/]; 1,1-DCE can be a chem. reaction product of TCA	○	◉	0
VC*		Daughter product of DCE[a/]	◉	○	2
1,1,1-Trichloroethane*		Material released	○	◉	0
DCA		Daughter product of TCA under reducing conditions	○	◉	0
Carbon Tetrachloride		Material released	○	◉	0
Chloroethane*		Daughter product of DCA or VC under reducing conditions	○	◉	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	○	◉	0
	>0.1 mg/L	Daughter product of VC/ethene	○	◉	0
Chloroform		Daughter product of Carbon Tetrachloride	○	◉	0
Dichloromethane		Daughter product of Chloroform	○	◉	0

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE Reset

End of Form

FIGURE 4

Tables

Table 1
Sampling and Analysis Summary
July 2, 2014

		App. I		App. II									MNA														Field Parameter						
	Reason Not Sampled	VOCs	Metals, Total	VOCs	Total Metals	Pesticides	Herbicides-Chlorinated	Polychlorinated biphenyl (PCB)	Semivolatile Organics (SVOCs)	Total Cyanide	Sulfide	Mercury	VFA	Hydrogen	Methane/Ethene/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 8270D	Lab EPA 9014	Lab SM18 4500-S2D	Lab EPA 200.8	AM23G	AM20GAX	AM20GAX	SM4500CO2C	2320B-97	4500SO42E97	4500S2D-00	4500CLB-97	5310C-00	H8000-79	5210B-01	EPA200.7	3500FEB-97	353.2 R2-93	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
MW-3				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-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-8	E																												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																													
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 2, 2014

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	7/2/2014	137	ug/l	0.12	100	700				
MW-1	Zinc, total	7/2/2014	20	ug/l	0.53	10	1000				
MW-3	**Vinyl Chloride**	**7/2/2014**	**1.9**		**0.63**	**1**	**0.03**			**1.87**	**L &/or LFG**
MW-3	Zinc, total	7/2/2014	38	ug/l	0.53	10	1000				
MW-6	Zinc, total	7/2/2014	12	ug/l	0.53	10	1000				
MW-9	Barium, total	7/2/2014	131	ug/l	0.12	100	700				
MW-9	Zinc, total	7/2/2014	24	ug/l	0.53	10	1000				
MW-11	Zinc, total	7/2/2014	48	ug/l	0.53	10	1000				
MW-11	**Vinyl Chloride**	**7/2/2014**	**1.5**		**0.63**	**1**	**0.03**			**1.47**	**L &/or LFG**
MW-12	Barium, total	7/2/2014	187	ug/l	0.12	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

L = Leachate

LFG = Landfill Gas

Table 3
Detections Above MDL (Appendix II Exclusive)
July 2, 2014

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	7/2/14	0.24 j	ug/l	0.05	100	NE	NE			
MW-9	**Mercury, total**	**7/2/14**	**4.1**	**ug/l**	**0.06**	**0.2**	**1**	**NE**		**3.1**	

1 Table contains detected App II exclusive constituents (Not also included 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.

L = Leachate

LFG = Landfill Gas

BOLD = Concentration >2L, or 2B Standard

Table 4
Hydrologic Properties at Monitoring Well Locations
July 2, 2014

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	0.010	23	N23E	16.11	82.23	Silty Sand
MW-3	1.30E-04	20	0.011	7	N56E	6.73	57.14	Silty Sand
MW-4	5.40E-04	20	0.011	30	N61E	6.51	61.52	Silty Sand
MW-6	-	-	0.008	-	N04W	10.21	75.35	Silty Sand
MW-9	3.80E-04	20	0.008	16	N18E	5.91	56.49	Sandy Clay
MW-11	6.59E-04	20	0.017	58	N25E	12.75	65.51	Sand
MW-12	2.10E-04	20	0.015	16	N01E	15.91	61.55	Sand
Minimum	1.30E-04	20	0.008	7	-	5.91	56.49	-
Average	3.91E-04	20	0.011	25	-	10.59	65.68	-
Maximum	6.59E-04	20	0.017	58	-	16.11	82.23	-

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 2, 2014.
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
July 2, 2014

Parameters	Method	MDL*	Units	MW-1	MW-3	MW-4	MW-6	MW-9	MW-11	MW-12
				07/02/14	07/02/14	07/02/14	07/02/14	07/02/14	07/02/14	07/02/14
VFA – Acetic Acid	AM23G	8	ug/L	27	33	41	13	40	12	34
VFA – Butyric Acid	AM23G	7	ug/L	<7	<7	<7	<7	<7	<7	<7
VFA – Hexanoic Acid	AM23G	120	ug/L	<120	<120	<120	<120	<120	<120	<120
VFA – i-Hexanoic Acid	AM23G	100	ug/L	870	130	100	<100	270	180	150
VFA – i-Pentanoic Acid	AM23G	8	ug/L	<8	<8	<8	<8	<8	<8	<8
VFA – Lactic Acid	AM23G	12	ug/L	17	31	27	34	28	22	37
VFA – Pentaonic Acid	AM23G	14	ug/L	<14	<14	<14	<14	<14	<14	<14
VFA – Propionic Acid	AM23G	11	ug/L	27	28	29	26	28	<11	27.000
VFA – Pyruvic Acid	AM23G	9	ug/L	<9	<9	<9	<9	<9	<9	<9
Hydrogen	AM20GAX	0.13	nM	0.86	1.4	1.2	0.77	2.2	0.59	0.88
Methane	AM20GAX	0.01	ug/L	2.5	530	2300	2500	180	2400	320
Ethene	AM20GAX	0.008	ug/L	0.0098	0.0600	0.0084	<.008	0.009	0.016	0.088
Ethane	AM20GAX	0.001	ug/L	0.0026	0.04	0.04	0.06	0	0.11	0.01
CO2-Dissolved	4500CO2C	1000	ug/L	40000	112000	285000	275000	122000	128000	532000
Alkalinity	2320B-97	1000	ug/L	<1000	2000	78000	48000	<1000	<1000	<1000
Sulfate	4500SO42E97	5000	ug/L	<5000	<5000	6900	36100	12300	<5000	57700
Sulfide	4500S2D-00	100	ug/L	<100	<100	374	<100	<100	<100	<100
Chloride	4500CLB-97	5000	ug/L	29000	17000	<5000	6000	27000	7000	50000
TOC	5310C-00	5000	ug/L	<46	3560	9140	1680	1660	<46	13180
COD	H8000-79	20000	ug/L	<20000	<20000	25000	20000	<20000	<20000	36000
BOD	5210B-01	2000	ug/L	<2000	<2000	<2000	<2000	<2000	<2000	<2000
Iron, total	EPA200.7	16	ug/L	195	2299	47850	13210	876	71	105
Iron, Ferrous	3500FEB-97	50	ug/L	<50	267	26640	7780	<50	<50	<50
Nitrate	353.2 R2-93	50	ug/L	13600	400	<40	100	5440	2120	500
Temperature	2550B-00	30	Degrees C	17	21	22	21	21	18	19
ORP	2580B	-900	mV	259	208	31	105	227	217	233
DO	4500OG-01	100	ug/L	3680	620	1030	1700	280	1240	1080
pH	4500HB-00	0.00	SU	4.1	4.9	5.5	5.3	4.4	4.6	4.3
Specific Conductance	2510B-97	1	uMhos	170	112	196	200	168	60	321
Turbidity	2130B-01	1	NTU	1.4	32.6	5.27	6.43	7.09	<1	3.29

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: 07/02/14
DATE REPORTED : 08/12/14

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-1	MW-3	MW-4	MW-6	MW-8	Analysis Date	Analyst	Method Code
PH (field measurement), Units			4.1	4.9	5.5	5.3		07/02/14	JAV	4500HB-00
BOD, mg/l	2.0	2.0	--- U	--- U	--- U	--- U		07/02/14	TRB	5210B-01
COD, mg/l	20.0	20.0	--- U	--- U	25	20		07/08/14	TRB	H8000-79
Nitrate Nitrogen as N, mg/l	0.04	10.0	13.60	0.40 J	--- U	0.10 J		07/03/14	ANO	353.2 R2-93
Total Organic Carbon, mg/l	0.046	1.0	--- U	3.56	9.14	1.68		07/07/14	SEJ	5310C-00
Total Alkalinity (to pH 4.5), mg/l	1.0	1.0	--- U	2	78	48		07/02/14	TRB	2320B-97
Chloride, mg/l	5.0	5.0	29	17	--- U	6		07/07/14	CMC	4500CLB-97
Cyanide, ug/l	5.0	10.0	--- U	--- U				07/10/14	SEJ	4500CNE-99
Sulfate, mg/l	5.0	250.0	--- U	--- U	6.9 J	36.1 J		07/07/14	TRB	4500SO42E97
Antimony, ug/l	0.12	6.0	0.85 J	0.24 J	1.1 J	0.40 J		07/17/14	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	0.20 J	0.53 J	2.8 J	0.30 J		07/17/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	137	84.2 J	29.5 J	32.6 J		07/18/14	LFJ	EPA200.8
Beryllium, ug/l	0.04	1.0	0.26 J	0.08 J	--- U	--- U		07/17/14	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.21 J	0.07 J	0.06 J	0.11 J		07/17/14	LFJ	EPA200.8
Cobalt, ug/l	0.12	10.0	3.8 J	0.49 J	0.77 J	0.40 J		07/17/14	LFJ	EPA200.8
Copper, ug/l	0.10	10.0	0.43 J	0.41 J	0.25 J	0.28 J		07/17/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	--- U	0.64 J	0.58 J	--- U		07/17/14	LFJ	EPA200.8
Iron, ug/l	16.0	300.0	195 J	2299	47850	13210		08/01/14	MTM	3111B-99
Lead, ug/l	0.13	10.0	1.3 J	0.29 J	--- U	0.55 J		07/17/14	LFJ	EPA200.8
Mercury, ug/l	0.06	0.20	--- U	--- U	--- U	--- U		07/09/14	MTM	245.1 R3-94
Nickel, ug/l	0.12	50.0	5.0 J	1.2 J	0.95 J	1.6 J		07/17/14	LFJ	EPA200.8
Selenium, ug/l	0.16	10.0	0.76 J	0.41 J	0.38 J	0.27 J		07/17/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	0.05 J	--- U	--- U	--- U		07/21/14	LFJ	EPA200.8
Thallium, ug/l	0.13	5.5	--- U	--- U	--- U	--- U		07/17/14	LFJ	EPA200.8
Tin, ug/l	0.05	100.0	0.24 J	--- U	--- U	--- U		07/17/14	LFJ	EPA200.8
Vanadium, ug/l	0.06	25.0	--- U	0.96 J	2.6 J	0.46 J		07/17/14	LFJ	EPA200.8
Zinc, ug/l	0.53	10.0	20	38	2.1 J	12		07/17/14	LFJ	EPA200.8
Sulfide, ug/l	100	1000	--- U	--- U	374 J	--- U		07/08/14	LFJ	4500S2D-00
Conductivity (at 25c), uMhos/cm	1.0	1.0	170	112	196	200		07/02/14	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	3.68	0.62	1.03	1.70		07/02/14	BF	45000G-01
Temperature, °C			17	21	22	21		07/02/14	BF	2550B-00
Iron, Ferrous, ug/l	50.00	300.0	--- U	267 J	26640	7780		07/03/14	SEJ	3500FEB-97
Static Water Level, feet			16.11	6.73	6.51	10.21	20.61	07/02/14	BF	
Well Depth, feet			39.37	15.90	15.78	16.72		07/02/14	BF	
Carbon Dioxide, mg/l	1.0	1.0	40	112	285	275		07/02/14	TRB	4500CO2C
ORP, mv			+259	+208	+31	+105		07/02/14	BF	2580B
Turbidity (Field), NTU	1.0	1.0	1.40	32.6	5.27	6.43		07/02/14	BF	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: 07/02/14
DATE REPORTED : 08/12/14

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-9	MW-10	MW-11	MW-12	Analysis Date	Analyst	Method Code
PH (field measurement), Units			4.4		4.6	4.3	07/02/14	JAV	4500HB-00
BOD, mg/l	2.0	2.0	--- U		--- U	--- U	07/02/14	TRB	5210B-01
COD, mg/l	20.0	20.0	--- U		--- U	36	07/08/14	TRB	H8000-79
Nitrate Nitrogen as N, mg/l	0.04	10.0	5.44 J		2.12 J	0.50 J	07/03/14	ANO	353.2 R2-93
Total Organic Carbon, mg/l	0.046	1.0	1.66		--- U	13.18	07/07/14	SEJ	5310C-00
Total Alkalinity (to pH 4.5), mg/l	1.0	1.0	--- U		--- U	--- U	07/02/14	TRB	2320B-97
Chloride, mg/l	5.0	5.0	27		7	50	07/07/14	CMC	4500CLB-97
Sulfate, mg/l	5.0	250.0	12.3 J		--- U	57.7 J	07/07/14	TRB	4500SO42E97
Antimony, ug/l	0.12	6.0	--- U		--- U	--- U	07/17/14	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	0.60 J		--- U	0.24 J	07/17/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	131		43.0 J	187	07/18/14	LFJ	EPA200.8
Beryllium, ug/l	0.04	1.0	0.24 J		0.07 J	0.26 J	07/17/14	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.26 J		0.07 J	0.47 J	07/17/14	LFJ	EPA200.8
Cobalt, ug/l	0.12	10.0	3.8 J		0.34 J	4.7 J	07/17/14	LFJ	EPA200.8
Copper, ug/l	0.10	10.0	0.45 J		0.27 J	0.67 J	07/17/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	--- U		--- U	0.22 J	07/17/14	LFJ	EPA200.8
Iron, ug/l	16.0	300.0	876		71 J	105 J	08/01/14	MTM	3111B-99
Lead, ug/l	0.13	10.0	0.22 J		0.23 J	--- U	07/17/14	LFJ	EPA200.8
Mercury, ug/l	0.06	0.20	4.1		--- U	--- U	07/09/14	MTM	245.1 R3-94
Nickel, ug/l	0.12	50.0	5.8 J		0.96 J	6.0 J	07/17/14	LFJ	EPA200.8
Selenium, ug/l	0.16	10.0	0.61 J		--- U	1.5 J	07/17/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	--- U		--- U	0.12 J	07/21/14	LFJ	EPA200.8
Thallium, ug/l	0.13	5.5	--- U		--- U	--- U	07/17/14	LFJ	EPA200.8
Tin, ug/l	0.05	100.0	--- U		--- U	--- U	07/17/14	LFJ	EPA200.8
Vanadium, ug/l	0.06	25.0	0.18 J		--- U	--- U	07/17/14	LFJ	EPA200.8
Zinc, ug/l	0.53	10.0	24		48	5.5 J	07/17/14	LFJ	EPA200.8
Sulfide, ug/l	100	1000	--- U		--- U	--- U	07/08/14	LFJ	4500S2D-00
Conductivity (at 25c), uMhos/cm	1.0	1.0	168		60	321	07/02/14	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	0.28		1.24	1.08	07/02/14	BF	4500OG-01
Temperature, °C			21		18	19	07/02/14	BF	2550B-00
Iron, Ferrous, ug/l	50.00	300.0	--- U		--- U	--- U	07/03/14	SEJ	3500FEB-97
Static Water Level, feet			5.91	21.59	12.75	15.91	07/02/14	BF	
Well Depth, feet			21.17		35.89	38.76	07/02/14	BF	
Carbon Dioxide, mg/l	1.0	1.0	122		128	532	07/02/14	TRB	4500CO2C
ORP, mv			+227		+217	+233	07/02/14	BF	2580B
Turbidity (Field), NTU	1.0	1.0	7.09		--- U	3.29	07/02/14	BF	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

REVIEWED BY:

CLIENT ID: 6009

ANALYST: CHS
DATE COLLECTED: 07/02/14
DATE EXTRACTED: 07/07/14
DATE ANALYZED: 07/24/14
DATE REPORTED: 08/12/14

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

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

REVIEWED BY:

CLIENT ID: 6009

ANALYST: CHS
DATE COLLECTED: 07/02/14
DATE EXTRACTED: 07/08/14
DATE ANALYZED: 07/23/14
DATE REPORTED: 08/12/14

LANDFILL APPENDIX II
EPA METHOD 8151A R1(96)

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3
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

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

CLIENT ID: 6009

ANALYST: MAO
DATE COLLECTED: 07/02/14
DATE ANALYZED: 07/09/14
DATE REPORTED: 08/12/14

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	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	--- U	1.50	--- 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	0.30 J	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	0.90 J	--- U	--- U	0.30 J	0.30 J
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	3.10	--- U	--- U	0.50 J	--- 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

REVIEWED BY:

CLIENT ID: 6009

ANALYST: CHS
DATE COLLECTED: 07/02/14
DATE EXTRACTED: 07/07/14
DATE ANALYZED: 07/23/14
DATE REPORTED: 08/12/14

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]antrhacene	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-Nitroaodimethylamine	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.

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

ANALYST: CHS
DATE COLLECTED: 07/02/14
DATE EXTRACTED: 07/07/14
DATE ANALYZED: 07/23/14
DATE REPORTED: 08/12/14

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. Diallate	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[a]anthracene	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. Famphur	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

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

ANALYST: CHS
DATE COLLECTED: 07/02/14
DATE EXTRACTED: 07/07/14
DATE ANALYZED: 07/23/14
DATE REPORTED: 08/12/14

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

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
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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: 07/02/14
DATE ANALYZED: 07/09/14
DATE REPORTED: 08/12/14

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	1.90
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	1.80 J
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	4.20 J
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	0.90 J
21. 1,2-Dichloroethane	0.21	1.0	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	0.60 J
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	0.90 J
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	0.70 J
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: 07/02/14
DATE ANALYZED: 07/09/14
DATE REPORTED: 08/12/14

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3
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

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

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858
environment1inc.com
Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

CLIENT: 6009 **Week:** 33

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									✓ E1										
pH CHECK (LAB)			<2		<2			>12		L2									
CONTAINER TYPE, P/G	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P			
CHEMICAL PRESERVATION	A	A	C	A	C	A	A	D	A	A	F	A	A	A	E				
PARAMETERS/TESTS	Field pH	BOD	COD	Nitrate	TOC	Alkalinity	Chloride	Cyanide	Sulfate	Metals	Sulfide	Conductivity	DO	Temperature	Ferrous Iron	Field Parameter	TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS
SAMPLE LOCATION / COLLECTION DATE TIME																			
MW-1 7-2-14 1240	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		17	19
MW-3 7-2-14 1015	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		21	18
MW-4 7-2-14 1110	G	G	G	G	G	G	G		G	G	G	G	G	G	G	G		22	13
MW-6 7-2-14 1150	G	G	G	G	G	G	G		G	G	G	G	G	G	G	G		21	13
MW-8 7-2-14 0845																G			1
MW-9 7-2-14 0935	G	G	G	G	G	G	G		G	G	G	G	G	G	G	G		21	13
MW-10 7-2-14 0850																G			1
MW-11 7-2-14 0800	G	G	G	G	G	G	G		G	G	G	G	G	G	G	G		~~0~~18 8.8	13
MW-12 7-2-14 0850	G	G	G	G	G	G	G		G	G	G	G	G	G	G	G		19	13

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

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

SAMPLES COLLECTED BY: (Please Print) Bobby / Tom

SAMPLES RECEIVED IN LAB AT 0-2 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Tom	7-2-14 2:14	[signature]	7/2/14 2:41
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.

№ 280642

FORM #5

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858
environment1inc.com
Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

CLIENT: 6009 **Week:** 33

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 8260B	8260 Dup. 1	8260 Dup. 2	EPA 8270D	8270D Dup. 1	EPA 8081B	8260B App. II	8260 App. II 1	8260 App. II 2	8151A Landfill	CO2	ORP	Field Parmeter
CHLORINE NEUTRALIZED AT COLLECTION																		
pH CHECK (LAB)						12	12	12				12	12	12				
CONTAINER TYPE, P/G						G	G	G	G	G	G	G	G	G	G	P	P	P
CHEMICAL PRESERVATION						E	E	E	A	A	A	E	E	E	A	A	A	A
MW-1	7-2-14	1240		17	19				G	G	G	G	G	G	G	G	G	G
MW-3	7-2-14	1015		21	18				G	G	G	G	G		G	G	G	G
MW-4	7-2-14	1110		22	13	G	G									G	G	G
MW-6	7-2-14	1150		21	13	G		G								G	G	G
MW-8	7-2-14	0845			1													
MW-9	7-2-14	0935		21	13	G	G									G	G	G
MW-10	7-2-14	0850			1													
MW-11	7-2-14	0800		18	13	G	G									G	G	G
MW-12	7-2-14	0850		19	13	G	G									G	G	G

PARAMETERS/TESTS

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
☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY: Y N

SAMPLES COLLECTED BY: (Please Print) Bobby / Tom

SAMPLES RECEIVED IN LAB AT 02 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fry	7-2-14 2:14	[signature]	7/2/14 2:45
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.

№ 280641

FORM #5

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

ID#: 6009 A

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

DATE COLLECTED: 07/02/14
DATE REPORTED : 08/08/14

REVIEWED BY:

PARAMETERS	MDL	SWSL	SW-1	SW-3	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.6	6.1	07/02/14	JAV	4500HB-00
Antimony, ug/l	0.12	6.0	0.79 J	0.18 J	07/17/14	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	3.0 J	4.3 J	07/17/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	58.4 J	69.8 J	07/18/14	LFJ	EPA200.8
Beryllium, ug/l	0.04	1.0	0.07 J	--- U	07/17/14	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	--- U	--- U	07/17/14	LFJ	EPA200.8
Cobalt, ug/l	0.12	10.0	0.72 J	1.1 J	07/17/14	LFJ	EPA200.8
Copper, ug/l	0.10	10.0	0.94 J	0.55 J	07/17/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	0.89 J	0.75 J	07/17/14	LFJ	EPA200.8
Lead, ug/l	0.13	10.0	1.5 J	0.97 J	07/17/14	LFJ	EPA200.8
Nickel, ug/l	0.12	50.0	1.8 J	2.8 J	07/17/14	LFJ	EPA200.8
Selenium, ug/l	0.16	10.0	0.20 J	--- U	07/17/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	--- U	--- U	07/21/14	LFJ	EPA200.8
Thallium, ug/l	0.13	5.5	--- U	--- U	07/17/14	LFJ	EPA200.8
Vanadium, ug/l	0.06	25.0	2.1 J	1.4 J	07/17/14	LFJ	EPA200.8
Zinc, ug/l	0.53	10.0	9.0 J	6.0 J	07/17/14	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	88	101	07/02/14	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	6.56	2.96	07/02/14	BF	4500OG-01
Temperature, °C			23	23	07/02/14	BF	2550B-00
ORP, mv			+95	+75	07/02/14	BF	2580B
Turbidity (Field), NTU	1.0	1.0	31.7	27.2	07/02/14	BF	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

REVIEWED BY:

CLIENT ID: 6009 A

ANALYST: MAO
DATE COLLECTED: 07/02/14
DATE ANALYZED: 07/09/14
DATE REPORTED: 08/08/14

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 Diaulfide	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.

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Greenville, NC 27858
environment1inc.com
Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

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

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	Conductivity	DO	Temperature	EPA 8260B	8260 Dup. 1	8260 Dup. 2	ORP	Field Parmeter
CHLORINE NEUTRALIZED AT COLLECTION															
pH CHECK (LAB)							12				12	12	12		
CONTAINER TYPE, P/G						P	P	P	P	P	G	G	G	P	P
CHEMICAL PRESERVATION						A	A	A	A	A	E	E	E	A	A
SW-1	7-2-14	0814		23	5	G	G	G	G	G	G	G	G	G	G
SW-3	7-2-14	0710		23	5	G	G	G	G	G	G	G	G	G	G

PARAMETERS/TESTS

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
☒ SOLID WASTE SECTION

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

SAMPLES COLLECTED BY: (Please Print) Bobby / Tom

SAMPLES RECEIVED IN LAB AT 0-2 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Tom	7-2-14 2:14	[signature]	7/2/14 2:41
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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№ 280640

FORM #5

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

July 10, 2014

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

RE: **LENOIR COUNTY / 6009**
Microseeps Workorder: 12646

Dear Steve Jones:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, July 03, 2014. 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 Robl 07/10/2014
rrobl@microseeps.com

RW 7/11/14

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 24

CERTIFICATE OF ANALYSIS

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Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

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:	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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Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID	Sample ID	Matrix	Date Collected	Date Received
126460001	MW1	Water	7/2/2014 12:40	7/3/2014 11:30
126460002	MW1	Bubble Strip	7/2/2014 12:40	7/3/2014 11:30
126460003	MW3	Water	7/2/2014 10:15	7/3/2014 11:30
126460004	MW3	Bubble Strip	7/2/2014 10:15	7/3/2014 11:30
126460005	MW4	Water	7/2/2014 11:10	7/3/2014 11:30
126460006	MW4	Bubble Strip	7/2/2014 11:10	7/3/2014 11:30
126460007	MW6	Water	7/2/2014 11:50	7/3/2014 11:30
126460008	MW6	Bubble Strip	7/2/2014 11:50	7/3/2014 11:30
126460009	MW9	Water	7/2/2014 09:35	7/3/2014 11:30
126460010	MW9	Bubble Strip	7/2/2014 09:35	7/3/2014 11:30
126460011	MW11	Water	7/2/2014 08:00	7/3/2014 11:30
126460012	MW11	Bubble Strip	7/2/2014 08:00	7/3/2014 11:30
126460013	MW12	Water	7/2/2014 08:50	7/3/2014 11:30
126460014	MW12	Bubble Strip	7/2/2014 08:50	7/3/2014 11:30

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Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460001 Date Received: 7/3/2014 11:30 Matrix: Water
Sample ID: MW1 Date Collected: 7/2/2014 12:40

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	**0.017J**	mg/l	0.10	0.012	1			7/9/2014 16:39	KB	
Acetic Acid	**0.027J**	mg/l	0.070	0.0080	1			7/9/2014 16:39	KB	
Propionic Acid	**0.027J**	mg/l	0.050	0.011	1			7/9/2014 16:39	KB	
Butyric Acid	**0.0070U**	mg/l	0.050	0.0070	1			7/9/2014 16:39	KB	
Pyruvic Acid	**0.0090U**	mg/l	0.15	0.0090	1			7/9/2014 16:39	KB	
i-Pentanoic Acid	**0.0080U**	mg/l	0.15	0.0080	1			7/9/2014 16:39	KB	
Pentanoic Acid	**0.014U**	mg/l	0.070	0.014	1			7/9/2014 16:39	KB	
i-Hexanoic Acid	**0.87**	mg/l	0.20	0.10	1			7/9/2014 16:39	KB	
Hexanoic Acid	**0.12U**	mg/l	0.50	0.12	1			7/9/2014 16:39	KB	

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

ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460002 Date Received: 7/3/2014 11:30 Matrix: Bubble Strip
Sample ID: MW1 Date Collected: 7/2/2014 12:40

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	2.5	ug/l	0.015	0.0060	1			7/9/2014 12:06	GT	
Ethane	0.0026J	ug/l	0.010	0.0010	1			7/9/2014 12:06	GT	
Ethene	0.0098J	ug/l	0.010	0.0080	1			7/9/2014 12:06	GT	
Hydrogen	0.86	nM	0.60	0.13	1			7/9/2014 12:06	GT	

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Microseeps/Paco Analytical Energy Services, LLC
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Pittsburgh, PA 15238
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Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460003 Date Received: 7/3/2014 11:30 Matrix: Water
Sample ID: MW3 Date Collected: 7/2/2014 10:15

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.031J	mg/l	0.10	0.012	1			7/9/2014 18:57	KB	
Acetic Acid	0.033J	mg/l	0.070	0.0080	1			7/9/2014 18:57	KB	
Propionic Acid	0.028J	mg/l	0.050	0.011	1			7/9/2014 18:57	KB	
Butyric Acid	0.0070U	mg/l	0.050	0.0070	1			7/9/2014 18:57	KB	
Pyruvic Acid	0.0090U	mg/l	0.15	0.0090	1			7/9/2014 18:57	KB	
i-Pentanoic Acid	0.0080U	mg/l	0.15	0.0080	1			7/9/2014 18:57	KB	
Pentanoic Acid	0.014U	mg/l	0.070	0.014	1			7/9/2014 18:57	KB	
i-Hexanoic Acid	0.13J	mg/l	0.20	0.10	1			7/9/2014 18:57	KB	
Hexanoic Acid	0.12U	mg/l	0.50	0.12	1			7/9/2014 18:57	KB	

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Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460004 Date Received: 7/3/2014 11:30 Matrix: Bubble Strip
Sample ID: MW3 Date Collected: 7/2/2014 10:15

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	530	ug/l	0.030	0.012	2			7/9/2014 13:45	GT	
Ethane	0.041	ug/l	0.020	0.0020	2			7/9/2014 13:45	GT	
Ethene	0.060	ug/l	0.020	0.016	2			7/9/2014 13:45	GT	
Hydrogen	1.4	nM	1.2	0.26	2			7/9/2014 13:45	GT	

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Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460005 Date Received: 7/3/2014 11:30 Matrix: Water
Sample ID: MW4 Date Collected: 7/2/2014 11:10

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.027J	mg/l	0.10	0.012	1			7/9/2014 19:43	KB	
Acetic Acid	0.041J	mg/l	0.070	0.0080	1			7/9/2014 19:43	KB	
Propionic Acid	0.029J	mg/l	0.050	0.011	1			7/9/2014 19:43	KB	
Butyric Acid	0.0070U	mg/l	0.050	0.0070	1			7/9/2014 19:43	KB	
Pyruvic Acid	0.0090U	mg/l	0.15	0.0090	1			7/9/2014 19:43	KB	
I-Pentanoic Acid	0.0080U	mg/l	0.15	0.0080	1			7/9/2014 19:43	KB	
Pentanoic Acid	0.014U	mg/l	0.070	0.014	1			7/9/2014 19:43	KB	
I-Hexanoic Acid	0.10J	mg/l	0.20	0.10	1			7/9/2014 19:43	KB	
Hexanoic Acid	0.12U	mg/l	0.50	0.12	1			7/9/2014 19:43	KB	

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ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460006 Date Received: 7/3/2014 11:30 Matrix: Bubble Strip
Sample ID: MW4 Date Collected: 7/2/2014 11:10

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	2300	ug/l	0.016	0.0060	1			7/9/2014 12:31	GT	
Ethane	0.041	ug/l	0.010	0.0010	1			7/9/2014 12:31	GT	
Ethene	0.0084J	ug/l	0.010	0.0080	1			7/9/2014 12:31	GT	
Hydrogen	1.2	nM	0.00	0.13	1			7/9/2014 12:31	GT	

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ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460007 Date Received: 7/3/2014 11:30 Matrix: Water
Sample ID: MW6 Date Collected: 7/2/2014 11:50

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	0.012	1			7/9/2014 20:29	KB	
Acetic Acid	0.013J	mg/l	0.070	0.0080	1			7/9/2014 20:29	KB	
Propionic Acid	0.026J	mg/l	0.050	0.011	1			7/9/2014 20:29	KB	
Butyric Acid	0.0070U	mg/l	0.050	0.0070	1			7/9/2014 20:29	KB	
Pyruvic Acid	0.0090U	mg/l	0.15	0.0090	1			7/9/2014 20:29	KB	
i-Pentanoic Acid	0.0060U	mg/l	0.15	0.0080	1			7/9/2014 20:29	KB	
Pentanoic Acid	0.014U	mg/l	0.070	0.014	1			7/9/2014 20:29	KB	
i-Hexanoic Acid	0.10U	mg/l	0.20	0.10	1			7/9/2014 20:29	KB	
Hexanoic Acid	0.12U	mg/l	0.60	0.12	1			7/9/2014 20:29	KB	

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ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460008 Date Received: 7/3/2014 11:30 Matrix: Bubble Strip
Sample ID: MW6 Date Collected: 7/2/2014 11:50

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	2500	ug/l	0.015	0.0060	1			7/9/2014 12:43	GT	
Ethane	0.064	ug/l	0.010	0.0010	1			7/9/2014 12:43	GT	
Ethene	0.0080U	ug/l	0.010	0.0080	1			7/9/2014 12:43	GT	
Hydrogen	0.77	nM	0.60	0.13	1			7/9/2014 12:43	GT	

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ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460009 Date Received: 7/3/2014 11:30 Matrix: Water
Sample ID: MW9 Date Collected: 7/2/2014 09:35

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.028J	mg/l	0.10	0.012	1			7/9/2014 21:16	KB	
Acetic Acid	0.040J	mg/l	0.070	0.0080	1			7/9/2014 21:16	KB	
Propionic Acid	0.026J	mg/l	0.050	0.011	1			7/9/2014 21:16	KB	
Butyric Acid	0.0070U	mg/l	0.050	0.0070	1			7/9/2014 21:16	KB	
Pyruvic Acid	0.0090U	mg/l	0.15	0.0090	1			7/9/2014 21:16	KB	
i-Pentanoic Acid	0.0080U	mg/l	0.15	0.0080	1			7/9/2014 21:16	KB	
Pentanoic Acid	0.014U	mg/l	0.070	0.014	1			7/9/2014 21:16	KB	
i-Hexanoic Acid	0.27	mg/l	0.20	0.10	1			7/9/2014 21:16	KB	
Hexanoic Acid	0.12U	mg/l	0.50	0.12	1			7/9/2014 21:16	KB	

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ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460010 Date Received: 7/3/2014 11:30 Matrix: Bubble Strip
Sample ID: MW9 Date Collected: 7/2/2014 09:35

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	180	ug/l	0.015	0.0060	1			7/9/2014 12:56	GT	
Ethane	0.0032J	ug/l	0.010	0.0010	1			7/9/2014 12:56	GT	
Ethene	0.0094J	ug/l	0.010	0.0080	1			7/9/2014 12:56	GT	
Hydrogen	2.2	nM	0.60	0.13	1			7/9/2014 12:56	GT	

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ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460011 Date Received: 7/3/2014 11:30 Matrix: Water
Sample ID: MW11 Date Collected: 7/2/2014 08:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM23G			Analytical Method: AM23G							
Lactic Acid	0.022J	mg/l	0.10	0.012	1			7/9/2014 22:02	KB	
Acetic Acid	0.012J	mg/l	0.070	0.0080	1			7/9/2014 22:02	KB	
Propionic Acid	0.011U	mg/l	0.050	0.011	1			7/9/2014 22:02	KB	
Butyric Acid	0.0070U	mg/l	0.050	0.0070	1			7/9/2014 22:02	KB	
Pyruvic Acid	0.0090U	mg/l	0.15	0.0090	1			7/9/2014 22:02	KB	
I-Pentanoic Acid	0.0080U	mg/l	0.15	0.0080	1			7/9/2014 22:02	KB	
Pentanoic Acid	0.014U	mg/l	0.070	0.014	1			7/9/2014 22:02	KB	
I-Hexanoic Acid	0.18J	mg/l	0.20	0.10	1			7/9/2014 22:02	KB	
Hexanoic Acid	0.12U	mg/l	0.50	0.12	1			7/9/2014 22:02	KB	

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ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460012 Date Received: 7/3/2014 11:30 Matrix: Bubble Strip
Sample ID: MW11 Date Collected: 7/2/2014 08:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	2400	ug/l	0.015	0.0000	1			7/9/2014 13:08	GT	
Ethane	0.11	ug/l	0.010	0.0010	1			7/9/2014 13:08	GT	
Ethene	0.016	ug/l	0.010	0.0080	1			7/9/2014 13:08	GT	
Hydrogen	0.59J	nM	0.60	0.13	1			7/9/2014 13:08	GT	

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ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID: 126460013 Date Received: 7/3/2014 11:30 Matrix: Water
Sample ID: MW12 Date Collected: 7/2/2014 08:50

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	0.012	1			7/9/2014 22:48	KB	
Acetic Acid	0.034J	mg/l	0.070	0.0080	1			7/9/2014 22:48	KB	
Propionic Acid	0.027J	mg/l	0.050	0.011	1			7/9/2014 22:48	KB	
Butyric Acid	0.0070U	mg/l	0.050	0.0070	1			7/9/2014 22:48	KB	
Pyruvic Acid	0.0090U	mg/l	0.15	0.0090	1			7/9/2014 22:48	KB	
i-Pentanoic Acid	0.0080U	mg/l	0.15	0.0080	1			7/9/2014 22:48	KB	
Pentanoic Acid	0.014U	mg/l	0.070	0.014	1			7/9/2014 22:48	KB	
i-Hexanoic Acid	0.15J	mg/l	0.20	0.10	1			7/9/2014 22:48	KB	
Hexanoic Acid	0.12U	mg/l	0.50	0.12	1			7/9/2014 22:48	KB	

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ANALYTICAL RESULTS

Workorder: 12646 LENOIR COUNTY / 0009

Lab ID: 126460014 Date Received: 7/3/2014 11:30 Matrix: Bubble Strip
Sample ID: MW12 Date Collected: 7/2/2014 08:50

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Methane	320	ug/l	0.015	0.0060	1			7/9/2014 13:20	GT	
Ethane	0.0097J	ug/l	0.010	0.0010	1			7/9/2014 13:20	GT	
Ethene	0.088	ug/l	0.010	0.0080	1			7/9/2014 13:20	GT	
Hydrogen	0.68	nM	0.60	0.13	1			7/9/2014 13:20	GT	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 12646 LENOIR COUNTY / 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 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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QUALITY CONTROL DATA

Workorder: 12646 LENOIR COUNTY / 6009

QC Batch: DISG/3896 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 126460002, 126460004, 126460006, 126460008, 126460010, 126460012, 126460014

METHOD BLANK: 28878

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.0060U	0.0060	
Ethane	ug/l	0.0010U	0.0010	
Ethene	ug/l	0.0080U	0.0080	

METHOD BLANK: 28880

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	0.13U	0.13	

LABORATORY CONTROL SAMPLE & LCSD: 28881 28884

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Methane	ug/l	8.3	8.0	8.1	97	97	80-120	0	20	
Ethane	ug/l	6.5	6.3	6.3	97	98	80-120	1	20	
Ethene	ug/l	16	16	16	96	96	80-120	0	20	

LABORATORY CONTROL SAMPLE & LCSD: 28883 28886

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Hydrogen	nM	24	25	25	103	103	60-120	0	20	

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QUALITY CONTROL DATA

Workorder: 12646 LENOIR COUNTY / 6009

QC Batch: EDON/2182 Analysis Method: AM23G

QC Batch Method: AM23G

Associated Lab Samples: 126460001, 126460003, 126460005, 126460007, 126460009, 126460011, 126460013

METHOD BLANK: 28938

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EDonors				
Lactic Acid	mg/l	0.012U	0.012	
Acetic Acid	mg/l	0.0080U	0.0080	
Propionic Acid	mg/l	0.011U	0.011	
Butyric Acid	mg/l	0.0070U	0.0070	
Pyruvic Acid	mg/l	0.0090U	0.0080	
i-Pentanoic Acid	mg/l	0.0080U	0.0080	
Pentanoic Acid	mg/l	0.014U	0.014	
i-Hexanoic Acid	mg/l	0.10U	0.10	
Hexanoic Acid	mg/l	0.12U	0.12	

LABORATORY CONTROL SAMPLE: 28939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors						
Lactic Acid	mg/l	2	2.1	106	70-130	
Acetic Acid	mg/l	2	2.2	112	70-130	
Propionic Acid	mg/l	2	2.0	101	70-130	
Butyric Acid	mg/l	2	2.0	99	70-130	
Pyruvic Acid	mg/l	2	2.0	100	70-130	
i-Pentanoic Acid	mg/l	2	1.9	97	70-130	
Pentanoic Acid	mg/l	2	1.9	95	70-130	
i-Hexanoic Acid	mg/l	2	2.2	112	70-130	
Hexanoic Acid	mg/l	2	1.7	87	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 28940 28941 Original: 126460001

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	0.017	2	2.0	2.0	102	102	70-130	0	30	
Acetic Acid	mg/l	0.027	2	2.2	2.2	109	109	70-130	0	30	
Propionic Acid	mg/l	0.027	2	1.9	2.0	96	97	70-130	1	30	

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QUALITY CONTROL DATA

Workorder: 12646 LENOIR COUNTY / 6009

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 28940 28941 Original: 126460001

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	2.0	2.0	99	99	70-130	0	30	
Pyruvic Acid	mg/l	0	2	1.9	1.9	96	98	70-130	0	30	
I-Pentanoic Acid	mg/l	0	2	1.9	2.0	95	100	70-130	5.1	30	
Pentanoic Acid	mg/l	0	2	2.0	2.0	98	98	70-130	0	30	
I-Hexanoic Acid	mg/l	0.87	2	2.6	2.7	89	91	70-130	2.2	30	
Hexanoic Acid	mg/l	0	2	1.9	1.8	93	93	70-130	0	30	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 12646 LENOIR COUNTY / 6009

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
126460002	MW1			AM20GAX	DISG/3896
126460004	MW3			AM20GAX	DISG/3896
126460006	MW4			AM20GAX	DISG/3896
126460008	MW6			AM20GAX	DISG/3896
126460010	MW9			AM20GAX	DISG/3896
126460012	MW11			AM20GAX	DISG/3896
126460014	MW12			AM20GAX	DISG/3896
126460001	MW1			AM23G	EDON/2182
126460003	MW3			AM23G	EDON/2182
126460005	MW4			AM23G	EDON/2182
126460007	MW6			AM23G	EDON/2182
126460009	MW9			AM23G	EDON/2182
126460011	MW11			AM23G	EDON/2182
126460013	MW12			AM23G	EDON/2182

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

12646

Page: 1 of 1

001385

Section A Required Client Information:

Company: ENVIRONMENT 1
Address: 1N OAKMONT DRIVE
GREENVILLE NC 27858
Email To: STONEST@AOL.COM
Phone: 252-756-6288 Fax: 252-756-6677
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To: SAME
Purchase Order No.:
Project Name: LENOIR COUNTY
Project Number: 6000

Section C Invoice Information:

Attention:
Company Name: SAME
Address: SAME
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	TSP	BAK	Zink Acetate & NaOH	Other	Analysis Test (Y/N)	HYDROGEN	NITRATE/NITRITE/PHENOL	LLUFA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW1	WT	G			7/2/14	1240		5										X	X	X		
2	MW 2	WT	G			?	1015		5										X	X	X		
3	MW 4	WT	G				1110		5										X	X	X		
4	MW 6	WT	G				1150		5										X	X	X		
5	MW 9	WT	G				0925		5										X	X	X		
6	MW 11	WT	G				0900		5										X	X	X		
7	MW 12	WT	G			↓	0850		5										X	X	X		
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Tracking ID # 5403	Robin Eng / E1	7/2/14	2:14P	[illegible] / E1	7/2/14	2:40				
	[illegible] / E1	7/2/14	3:10P	[illegible] PACE	7.3.14	1130	2.4	Y	N	

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robin Eng

SIGNATURE of SAMPLER: Robin Eng

DATE Signed (MM/DD/YY): 7-2-14

2

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Cooler Receipt Form

Client Name: Environment 1 Project: Lenoir County 6029 Lab Work Order: 12646

A. Shipping/Container Information (circle appropriate response)

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

Tracking Number: 1Z 2037 0501 7626 6046

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: 2.4°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			✓	If yes, see pH form.
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: 7.3.14

Project Manager Review: AL Date: 7/3/14

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: 07/02/14
DATE REPORTED : 08/08/14

REVIEWED BY:

PARAMETERS	MDL	Equipment SWSL	Equipment Blank	Trip Blank	Field Blank	Analysis Date	Analyst	Method Code
Antimony, ug/l	0.12	6.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	--- U		--- U	07/18/14	LFJ	EPA200.8
Beryllium, ug/l	0.04	1.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Cobalt, ug/l	0.12	10.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Copper, ug/l	0.10	10.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Lead, ug/l	0.13	10.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Mercury, ug/l	0.06	0.20	--- U			07/09/14	MTM	245.1 R3-94
Nickel, ug/l	0.12	50.0	0.66 J		0.17 J	07/17/14	LFJ	EPA200.8
Selenium, ug/l	0.16	10.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	--- U		--- U	07/21/14	LFJ	EPA200.8
Thallium, ug/l	0.13	5.5	--- U		--- U	07/17/14	LFJ	EPA200.8
Vanadium, ug/l	0.06	25.0	--- U		--- U	07/17/14	LFJ	EPA200.8
Zinc, ug/l	0.53	10.0	--- U		--- U	07/17/14	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

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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: 07/02/14
DATE ANALYZED: 07/09/14
DATE REPORTED: 08/08/14

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

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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: 07/02/14
DATE ANALYZED: 07/09/14
DATE REPORTED: 08/08/14

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

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

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858
environment1inc.com
Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

CLIENT: 6010 A **Week: 31**

LENOIR CO. LANDFILL (BLANKS)
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): 12 12 12

CONTAINER TYPE, P/G: P G G

CHEMICAL PRESERVATION: A E E

PARAMETERS/TESTS: A - NONE; B - HNO_3; C - H_2SO_4; D - NAOH; E - HCL; F - ZINC ACETATE/NAOH; G - NA THIOSULFATE

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Metals	8260B App. II	8260 App. II 1
Equipment Blank	7-2-14	0720			3	G	G	G
Trip Blank	7-2-14				2		G	G
Field Blank	7-2-14	0720			3	G	G	G

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

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

SAMPLES COLLECTED BY: (Please Print) Bobby / Tom

SAMPLES RECEIVED IN LAB AT 0-2 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Tom	7-2-14 2:14	[signature]	7/2/14 2:41
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.

Nº 277452

FORM #5