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 8, 2015

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

Affix NC Licensed/ Professional Geologist Seal

Signature | Date: 5/31/16

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

Semi-Annual Water Quality Monitoring Report with Corrective Action Update

Prepared for

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

July 2015

Permit Number: 54-03
MESCO Project Number: G15015.0

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

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

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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)

May 31, 2016

Ms. Jaclynne Drummond
Solid Waste Section (SWS)
NC Department of Environmental Quality (NCDEQ)
2090 US Highway 70
Swannanoa, NC 28778

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. G15015.0
Event Date: July 8, 2015

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 2015 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 8, 2015. Laboratory analytical results indicate that the only constituents detected above applicable regulatory Standards and attributed to anthropogenic sources were benzene and vinyl chloride in sample MW-3 and total mercury in MW-9. 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 MNA was initiated on July 29, 2009 and has continued on a semi-annual basis.

Following establishment of the two year MNA baseline, MESCO completed a *Corrective Action Evaluation Report* (*CAER*) (DIN 13653) on April 12, 2011. Although the *CAER* demonstrated that water quality conditions have improved and there is adequate evidence that groundwater natural attenuation is occurring, the SWS *CAER* review response (DIN 15524) dated November 22, 2011 denied the proposed discontinuation of corrective action. The *Groundwater and Surface Water Sampling & Analysis Plan* (*SAP*) Revision 2 (*SAP-Rev.2*) (DIN 16358) was submitted by MESCO on March 23, 2012 at the request of the SWS. The SWS requested *SAP-Rev.2* specifies full Appendix II monitoring of all groundwater samples once every five years which was performed on June 25, 2012 and continuation of annual Appendix II monitoring of MW-3 which was performed during this July 2015 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-3 located upstream and SW-1 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**.

A summary detailing the construction of the water monitoring wells is presented on **Table 1.** 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 analytes listed in 40 CFR 258 Appendix II. Additionally, all 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 2**.

Water samples were analyzed to the laboratory-established Method Detection Limits (MDL), which are at or below current Solid Waste Section Limits (SWSL). **Table 3** summarizes constituents detected in groundwater and surface water samples above the current SWSL, Groundwater Protection Standards (GWP), North Carolina Groundwater Standards (2L), the applicable Class C North Carolina Surface Water Standards (2B) or Maximum Contaminant Levels (MCL) also known as "Federal Primary Drinking Water Standards". **Table 4** summarizes all Appendix II detections (defined in this report as not also listed in Appendix I) above the MDL.

Quality Control Samples

Six out of fifteen total metals were detected in low "j-qualified" concentrations in the quality control blanks (EB and FB). Although the field and/or laboratory induced artifact contamination was identified it is unlikely the data set for the landfill has been influenced by false positives or high bias.

Groundwater Samples

A sample collected from MW-6 contained concentrations of toral chromium (22 µg/L) and lead (20 µg/L) which were above their respective 2L Standards of 10 µg/L and 15 µg/L. Turbidity levels were the highest at MW-6 (132 NTU) which is three orders of magnitude above the average of all of the other samples (1.0 NTU).

Total mercury, an Appendix II heavy metal, was detected in MW-9 (2.6 µg/L) which is above the 2L Standard (1.0 µg/L) and MCL (2.0 µg/L)

A sample collected from MW-3 contained levels of vinyl chloride (3.5 µg/L) and benzene (1.7 µg/L) which were above their respective 2L Standards of 0.03 µg/L and 1.0 µg/L.

Surface Water Samples

Samples collected from upstream (SW-3) of the landfill did not contain target analytes in concentrations above their 2L Standard. SW-1, located downstream of the facility, was reported to be dry.

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 15 ft/yr in MW-3 to 64 ft/yr in MW-11 and averaged 33 ft/yr. Groundwater flow rates and directions are included in **Table 5.** 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 6.** The data for MW-3, the lone well impacted by VOCs, was inputted into the Biochlor natural attenuation screening protocol matrix. The screening matrix score at MW-3 was 28 and any value above 20 is interpreted by the US EPA protocol as strong evidence of anaerobic biodegradation of chlorinated organics **(Figure 3).**

Findings

Elevated metals detected in samples collected from MW-6 are likely not anthropogenic rather biased high from the interaction of natural sediment entrained in the acidified sample container. Metals have not historically been consistently detected in samples collected from MW-6 and the turbidity levels are very high relative to other samples.

Mercury was detected in sample MW-9 in excess of it's respective 2L Standard but within it's own historically identified range (**Figure 4**). We recommend and have requested that E1 test MW-9 for both total and dissolved mercury during the summer of 2016 event to determine if dissolved (mobile) mercury levels are elevated.

Samples collected from MW-3, located within the 250 foot compliance boundary, contained benzene and vinyl chloride above the 2L Standard but within their own respective historically identified range. 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 chlorinated organics at MW-3.

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

Water quality monitoring and corrective action continued on the established semi-annual schedule in January 2016 and the report is planned to be submitted soon. Please contact us with any questions by phone at (919) 772-5393 or by email at jpfohl@mesco.com.

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

Jonathan Pfohl
Environmental Specialist

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

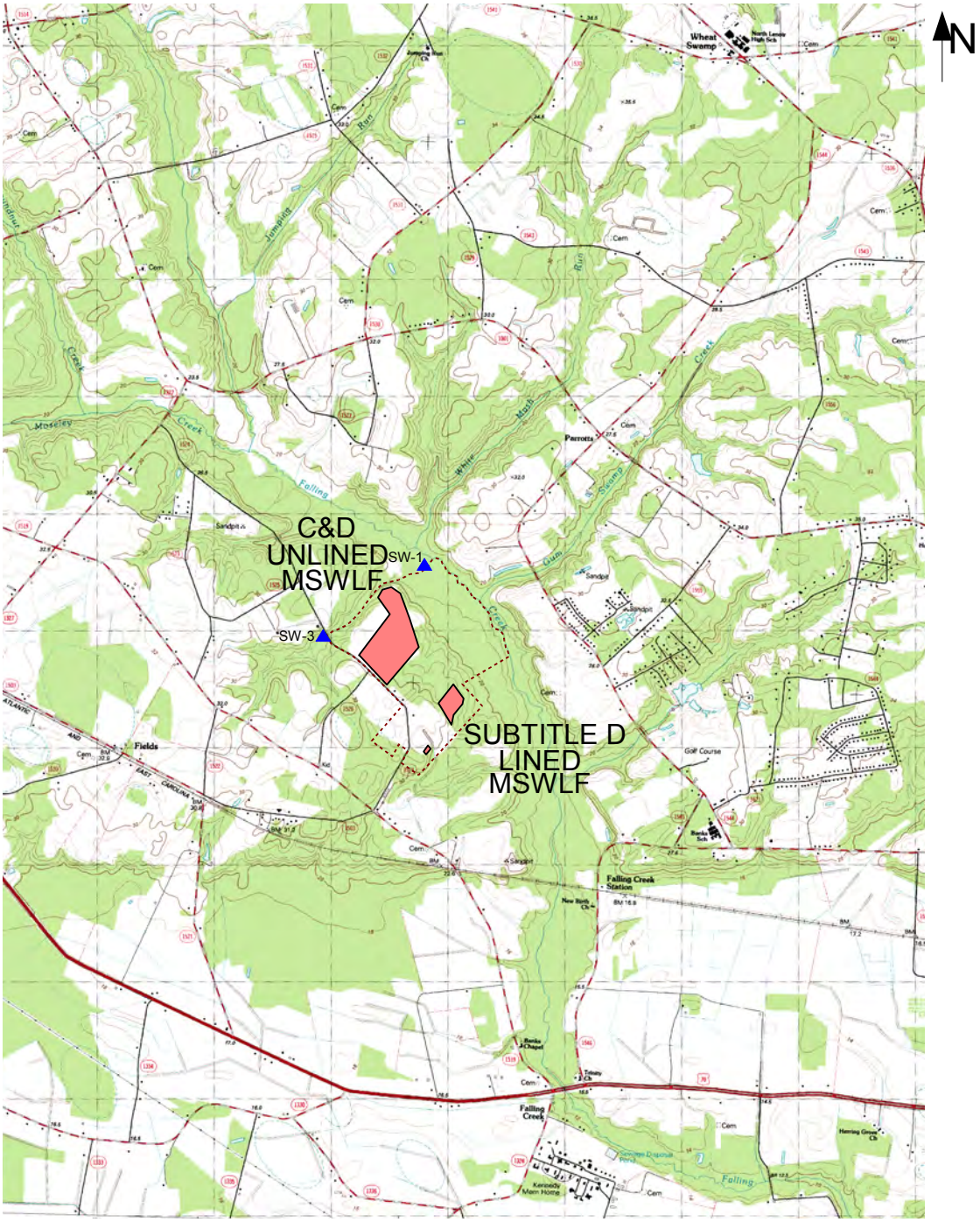
Enclosures

cc: Mr. Tom Miller
Lenoir County

Ms. Christine Ritter
NC SWS

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

FIGURE 1

SW-3
(Upstream)

SW-1
(Downstream)
Dry

DENSE TREES

DENSE TREES

HODGES FARM ROAD (S.R. 1524)

TRANSFER STATION

WHITE GOODS PAD

OFFICES

MAINT. SHOP

FUEL

SCALES

WALL

ESTIMATED EXTENT OF WASTE

MW-1
83.74

MW-3
56.76
MW-3
Benzene - 1.7 ug/l
Vinyl Chloride - 3.5 ug/l

MW-4
61.36

MW-6
76.45

MW-8
68.35

MW-9
56.23
MW-9
Mercury 2.6 ug/l

MW-10
66.89

MW-11
65.83

MW-12
61.69

WASTE FILLED PRIOR TO 1991

CLOSED MSW LANDFILL
COHESIVE CAPPED IN 1998

ACTIVE C&D AREA

WASTE FILLED PRIOR TO OCT. 9, 1994

56 58 60 62 64 66 68 70 72 74 76 78 80 82

LEGEND

- EXISTING TOPOGRAPHIC CONTOURS
- EXISIITING ROAD/PATH
- EXISTING PROPERTY LINE
- CLOSED MSWLF, ESTIMATED EXTENT OF WASTE
- GENERAL UPPERMOST GROUNDWATER DIRECTION
- POTENTIOMETRIC GROUNDWATER CONTOUR
- MONITORING WELL
- GAS PASSIVE EXTRACTION WELL
- GENERAL UPPERMOST GROUNDWATER FLOW DIRECTION

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

Groundwater Levels and Detections Attributed to an Anthropogenic Source Above 2L Standards
July 8, 2015

WELL #	TOP OF CASING ELEVATION (FT AMSL)	DEPTH TO WATER (FT BTOC)	GROUNDWATER POTENTIOMETRIC ELEVATION (FT AMSL)	VINYL CHLORIDE (ug/L)	BENZENE (ug/L)	MERCURY (ug/L)
15A NCAC 2L Groundwater Quality Standard				0.03	1	1
MW-1	98.34	14.60	83.74			
MW-3	63.87	7.11	56.76	3.5	1.7	
MW-4	68.03	6.67	61.36			
MW-6	85.56	9.11	76.45			
MW-8	88.29	19.94	68.35	Not sampled since exempt		
MW-9	62.40	6.17	56.23			2.6
MW-10	87.15	20.26	66.89	Not sampled since exempt		
MW-11	78.26	12.43	65.83			
MW-12	77.46	15.77	61.69			

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

DESCRIPTION	REV.	BY	DATE

SCALE: SEE BAR SCALE
DATE: 11/4/15
DRWN. BY: R. MOSS
CHKD. BY: S. GANDY
PROJECT NUMBER: G15015.0
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

Score: 28

Scroll to End of Table

* reductive dechlorination

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	○	◉	0
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	◉	○	3
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	○	◉	0
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	◉	○	2
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	◉	○	2
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	○	◉	0
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	◉	○	2
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

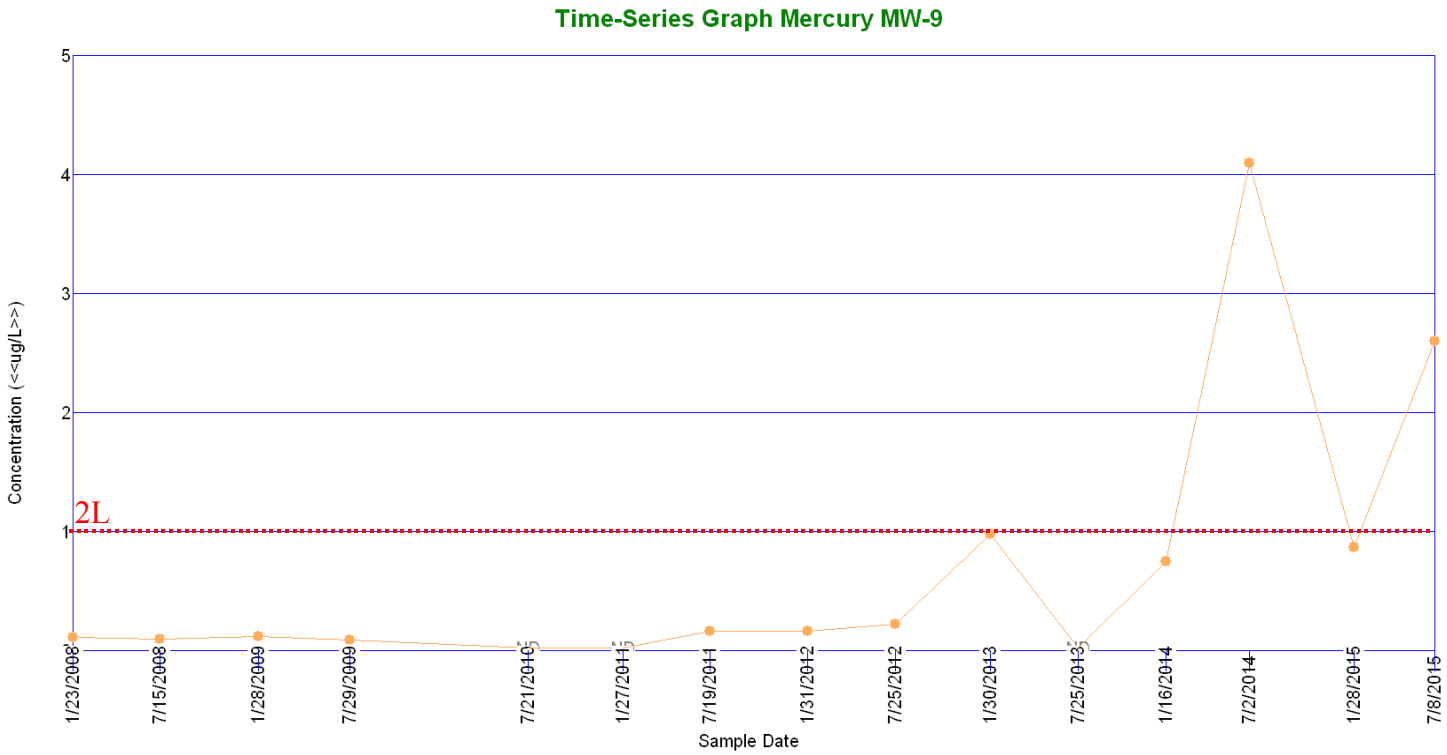
* required analysis.

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
Time-Series Graph of Mercury at MW-9
January 23, 2008- July 8, 2015



ND Represented by ½ Detection Limit

Tables

Table 1
Groundwater Monitoring Well Construction Table
July 8, 2015

Monitoring Well	Date Installed	Well Diameter	Total Well Depth	Top of Screen Depth	Screen Length	Geology of Screened Interval	Top of Casing Elevation	Ground Elevation	Groundwater Elevation	Depth to Water	Latitude	Longitude
		(inches)	(ft bgs)	(ft bgs)	(ft)		(ft amsl)	(ft amsl)	(ft amsl)	(ft btoc)		
MW-1	10/7/80	2	40	na	na	Silty Sand	98.34	na	83.74	14.60	N35° 17' 29.98"	W77° 42' 37.63"
MW-3	9/26/91	2	12	2	10	Silty Sand	63.87	60.71	56.76	7.11	N35° 17' 51.39"	W77° 42' 25.53"
MW-4	9/25/91	2	15	5	10	Silty Sand	68.03	65.86	61.36	6.67	N35° 17' 44.60"	W77° 42' 23.26"
MW-6	5/27/92	2	17	7	10	Silty Sand	85.56	84.93	76.45	9.11	N35° 17' 38.82"	W77° 42' 48.13"
MW-8	8/24/94	2	31.5	16.5	15	Silt	88.29	85.39	68.35	19.94	N35° 17' 47.26"	W77° 42' 38.63"
MW-9	8/25/94	2	19.8	4.8	15	Sandy Clay	62.40	56.55	56.23	6.17	N35° 17' 59.03"	W77° 42' 32.15"
MW-10	8/24/94	2	31.5	16.5	15	Sandy Silt	87.15	84.04	66.89	20.26	N35° 17' 49.91"	W77° 42' 35.62"
MW-11	3/31/99	2	36	26	10	Sand	78.26	75.36	65.83	12.43	N35° 17' 48.26"	W77° 42' 39.65"
MW-12	3/31/99	2	35	25	10	Sand	77.46	74.65	61.69	15.77	N35° 17' 52.37"	W77° 42' 35.08"

NOTE:
bgs = below ground surface
amsl= above mean sea level
btoc = below top of casing (PVC well casing)
na = not available. Not shown on well construction record or boring log

Table 2
Sampling and Analysis Summary
July 8, 2015

	App. I		App. II											MNA														Field Parameter						
	VOCs	Metals, Total	VOCs	Total Metals	Total Mercury	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 245.1	Lab EPA 8081B	Lab SW8151A	Lab EPA 8081B	Lab EPA 8270C	Lab EPA 9014	Lab SM18 4500-S2D	Lab EPA 200.8		AM23G	AM20GAX	AM20GAX	SM4500CO2C	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	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	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	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	x	x
MW-8	Exempt from water quality sampling only water level elevation required																													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	x	x
MW-10	Exempt from water quality sampling only water level elevation required																													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	x	x
MW-12	x			x	x						x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
SW-1	Not sampled since reported to be dry																																	
SW-3	x	x																									x	x		x	x	x	x
EB		x	x		x							x																						
FB		x	x		x																													
TB			x																															

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

Table 3
Detections Above Established SWSL, GWP, 2L, 2B or MCL (Appendix I)
July 8, 2015

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	2L [4]	2B [5]	GWP [6]	MCL [7]	Preliminary Cause [8]
MW-1	Barium, total	7/8/15	166	ug/l	0.010	100	700			1300	
MW-1	Zinc, total	7/8/15	15	ug/l	0.200	10	1000			5000	
MW-3	Benzene	7/8/15	1.7	ug/l	0.240	1	**1**			5	L &/or LFG
MW-3	Vinyl Chloride	7/8/15	3.5	ug/l	0.630	1	**0.03**			5	L &/or LFG
MW-3	1,4-Dichlorobenzene	7/8/15	1.4	ug/l	0.390	1	6			75	
MW-3	Cis-1,2-Dichloroethene	7/8/15	5	ug/l	0.250	5	70			70	
MW-3	Zinc, total	7/8/15	21	ug/l	0.200	10	1000			5000	
MW-6	Chromium, total	7/8/15	22	ug/l	0.120	5	**10**			100	N
MW-6	Lead, total	7/8/15	20	ug/l	0.030	5	**15**			**15**	N
MW-6	Vanadium, total	7/8/15	35	ug/l	0.220	10	NE		**3.5**	NE	
MW-6	Zinc, total	7/8/15	85	ug/l	0.200	10	1000			5000	
MW-9	Barium, total	7/8/15	169	ug/l	0.010	100	700			1300	
MW-9	Zinc, total	7/8/15	29	ug/l	0.200	10	1000			5000	
MW-11	Zinc, total	7/8/15	13	ug/l	0.200	10	1000			5000	
MW-12	Barium, total	7/8/15	142	ug/l	0.010	100	700			1300	

[1] Table contains constituents detected at or above 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] MCL = Primary Drinking Water Standard (not currently applicable for regulatory comparisons)

[8] 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. Preliminary cause only listed pursuant to instructions

N = Natural from erosion of natural deposits. Not an anthropogenic source

L = Leachate

LFG = Landfill Gas

BOLD = Concentration > 2L, 2B, GWP or MCL Standard

Table 4
Detections Above MDL (Appendix II Exclusive)
July 8, 2015

Sample ID	Parameter Name [1]	Sample Date	Result	Unit	MDL [2]	SWSL [3]	2L [4]	GWP [5]	MCL [6]	Preliminary Cause [7]
MW-3	Tin, total	7/8/15	0.1J	ug/l	0.06	100	NE	NE	NE	
MW-6	Mercury, total	7/8/15	0.06J	ug/l	0.05	0.2	1		2	
MW-6	Tin, total	7/8/15	0.3J	ug/l	0.06	100	NE	NE	NE	
MW-9	Mercury, total	7/8/15	2.6	ug/l	0.05	0.2	**1**		**2**	
MW-11	Tin, total	7/8/15	17.7J	ug/l	0.06	100	NE	NE	NE	
MW-12	Tin, total	7/8/15	0.08J	ug/l	0.06	100	NE	NE	NE	

[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

[6] MCL = Primary Drinking Water Standard (not currently applicable for regulatory comparisons)

[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, GWP or MCL Standard

Table 5
Hydrologic Properties at Monitoring Well Locations
July 8, 2015

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	0.011	25	N37E	14.60	83.74	Silty Sand
MW-3	1.30E-04	20	0.023	15	N47E	7.11	56.76	Silty Sand
MW-4	5.40E-04	20	0.015	41	N40E	6.67	61.36	Silty Sand
MW-6	-	-	0.011	-	N05W	9.11	76.45	Silty Sand
MW-9	3.80E-04	20	0.016	32	N07E	6.17	56.23	Sandy Clay
MW-11	6.59E-04	20	0.019	64	N31W	12.43	65.83	Sand
MW-12	2.10E-04	20	0.018	20	N15W	15.77	61.69	Sand
Minimum	1.30E-04	20	0.011	15	-	6.17	56.23	-
Average	3.91E-04	20	0.016	33	-	10.27	66.01	-
Maximum	6.59E-04	20	0.023	64	-	15.77	83.74	-

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 8, 2015.
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 6
MNA Parameter Summary
July 8, 2015

Parameters	Method	MDL*	Units	MW-1 7/8/15	MW-3 7/8/15	MW-4 7/8/15	MW-6 7/8/15	MW-9 7/8/15	MW-11 7/8/15	MW-12 7/8/15
VFA – Acetic Acid	AM23G	8	ug/L	16 j	14 j	20 j	38 j	22 j	17 j	290
VFA – Butyric Acid	AM23G	7	ug/L	<7	<7	<7	<7	130	<7	<120
VFA – Hexanoic Acid	AM23G	120	ug/L	<120	<120	<120	<120	<120	<120	<100
VFA – i-Hexanoic Acid	AM23G	100	ug/L	<100	<100	<100	<100	<100	<100	<8
VFA – i-Pentanoic Acid	AM23G	8	ug/L	<8	<8	<8	<8	<8	<8	23 j
VFA – Lactic Acid	AM23G	12	ug/L	<12	<12	<12	67 j	<12	<12	24 j
VFA – Pentaonic Acid	AM23G	14	ug/L	<14	<14	<14	<14	34 j	<14	63 j
VFA – Propionic Acid	AM23G	11	ug/L	<11	<11	<11	<11	<11	<11	<11
VFA – Pyruvic Acid	AM23G	9	ug/L	<9	<9	<9	<9	<9	<9	<9
Hydrogen	AM20GAX	0.13	nM	2.9	2.6	3.2	2.7	2.8	2.7	2.9
Methane	AM20GAX	0.01	ug/L	1100	720	2100	2300	420	2600	280
Ethene	AM20GAX	0.01	ug/L	0.07	0.24	0.02	0.04	0.05	0.05	0.1
Ethane	AM20GAX	0.001	ug/L	0.11	0.12	0.06	0.12	0.0037 j	0.18	0.02
CO2-Dissolved	4500CO2C	1000	ug/L	32000	257000	225000	148000	140000	164000	510000
Alkalinity	2320B-97	1000	ug/L	<1000	81000	99000	69000	<1000	<1000	<1000
Sulfate	4500SO42E97	5000	ug/L	<5000	10300 j	12100 j	22500 j	<5000	<5000	39300 j
Sulfide	4500S2D-00	100	ug/L	<100	<100	292 j	<100	<100	<100	<100
Chloride	4500CLB-97	5000	ug/L	12000	30000	<5000	<5000	41000	7000	46000
TOC	5310C-00	85	ug/L	<85	4020	8070	3460	1870	<85	15500
COD	H8000-79	20000	ug/L	<20000	28000	36000	29000	20000	<20000	52000
BOD	5210B-01	2000	ug/L	<2000	<2000	<2000	<2000	<2000	<2000	<2000
Iron, total	3111B-99	11.53	ug/L	62 j	45425	24800	25650	445	56 j	82 j
Iron, Ferrous	3500F5403-EB-97	50	ug/L	<50	40280	23000	18510	<50	<50	<50
Nitrate	353.2 R2-93	40	ug/L	15200	<40	40 j	50 j	5500 j	2100 j	350 j
Temperature	2550B-00	0	C	22	25	25	26	24	23	23
ORP	2580B	-900	mV	137	28	-7	9	78	45	55
DO	4500OG-01	100	ug/L	1820	2820	1880	2170	7130	1880	5520
pH	4500HB-00	0	SU	3.9	5.7	5.7	5.7	4.2	4.4	4.2
Specific Conductance	2510B-97	1	uMhos	183	353	255	249	225	78	337
Turbidity	2130B-01	1	NTU	<1	2.65	<1	132	1.5	<1	<1

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

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.

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: 07/08/15
DATE REPORTED : 08/31/15

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-1	MW-3	MW-4	MW-6	MW-8	Analysis Date	Analyst	Method Code
PH (field measurement), Units			3.9	5.7	5.7	5.7		07/08/15	BF	4500HB-00
BOD, mg/l	2.0	2.0	--- U	--- U	--- U	--- U		07/08/15	TRB	5210B-01
COD, mg/l	20.0	20.0	--- U	28	36	29		07/14/15	TRB	H8000-79
Nitrate Nitrogen as N, mg/l	0.04	10.0	15.20	--- U	0.04 J	0.05 J		07/10/15	KDB	353.2 R2-9
Total Organic Carbon, mg/l	0.085	1.0	--- U	4.02	8.07	3.46		07/10/15	SEJ	5310C-00
Alkalinity (to pH 4.5), mg CaCO3/l	1.0	1.0	--- U	81	99	69		07/09/15	TRB	2320B-97
Chloride, mg/l	5.0	5.0	12	30	--- U	--- U		07/13/15	SDB	4500CLB-97
Cyanide, ug/l	5.0	10.0	--- U	--- U				07/17/15	SEJ	4500CNE-99
Sulfate, mg/l	5.0	250.0	--- U	10.3 J	12.1 J	22.5 J		07/13/15	TRB	4500SO42E9
Antimony, ug/l	0.02	6.0	0.26 J	0.09 J	0.51 J	0.57 J		07/21/15	LFJ	EPA200.8
Arsenic, ug/l	0.14	10.0	--- U	0.29 J	4.0 J	7 J		07/21/15	LFJ	EPA200.8
Barium, ug/l	0.01	100.0	166	66.2 J	21.8 J	45.2 J		07/22/15	LFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	0.32 J	--- U	--- U	0.39 J		07/21/15	LFJ	EPA200.8
Cadmium, ug/l	0.01	1.0	0.12 J	0.06 J	0.04 J	0.35 J		07/21/15	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	3.9 J	0.57 J	0.64 J	1.1 J		07/22/15	LFJ	EPA200.8
Total Chromium, ug/l	0.12	10.0	--- U	--- U	0.15 J	22		07/21/15	LFJ	EPA200.8
Copper, ug/l	0.02	10.0	0.23 J	0.64 J	0.14 J	4.0 J		07/22/15	LFJ	EPA200.8
Iron, ug/l	11.53	300.0	62 J	45425	24800	25650		07/15/15	JMN	3111B-99
Lead, ug/l	0.03	10.0	1.2 J	0.06 J	0.04 J	20		07/21/15	LFJ	EPA200.8
Mercury, ug/l	0.05	0.20	--- U	--- U	--- U	0.06 J		07/10/15	MTM	245.1 R3-9
Nickel, ug/l	0.01	50.0	4.4 J	1.2 J	0.76 J	5.6 J		07/22/15	LFJ	EPA200.8
Selenium, ug/l	0.22	10.0	--- U	0.81 J	0.46 J	0.98 J		07/22/15	LFJ	EPA200.8
Silver, ug/l	0.01	10.0	--- U	--- U	--- U	0.12 J		07/22/15	LFJ	EPA200.8
Thallium, ug/l	0.02	5.5	0.04 J	--- U	--- U	0.18 J		07/21/15	LFJ	EPA200.8
Tin, ug/l	0.06	100.0	--- U	0.10 J	--- U	0.30 J		07/21/15	LFJ	EPA200.8
Vanadium, ug/l	0.22	25.0	--- U	--- U	2.7 J	35		07/21/15	LFJ	EPA200.8
Zinc, ug/l	0.20	10.0	15	21	3.2 J	85		07/21/15	LFJ	EPA200.8
Sulfide, ug/l	100	1000	--- U	--- U	292 J	--- U		07/08/15	LFJ	4500S2D-00
Conductivity (at 25c), uMhos/cm	1.0	1.0	183	353	255	249		07/08/15	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	1.82	2.82	1.88	2.17		07/08/15	BF	4500OG-01
Temperature, °C			22	25	25	26		07/08/15	BF	2550B-00
Iron, Ferrous, ug/l	50.00	300.0	--- U	40280	23000	18510		07/08/15	SEJ	3500FEB-97
Static Water Level, feet			14.60	7.11	6.67	9.11	19.94	07/08/15	BF	
Well Depth, feet			39.37	15.90	15.78	16.72		07/08/15	BF	
Carbon Dioxide, mg/l	1.0	1.0	32	257	225	148		07/09/15	TRB	4500CO2C
ORP, mv			+137	+28	-7	+9		07/08/15	BF	2580B
Turbidity (Field), NTU	1.0	1.0	--- U	2.65	--- U	132		07/08/15	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
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ID#: 6009

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

DATE COLLECTED: 07/08/15
DATE REPORTED : 08/31/15

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-9	MW-10	MW-11	MW-12	Analysis Date	Analyst	Method Code
PH (field measurement), Unite			4.2		4.4	4.2	07/08/15	BF	4500HB-00
BOD, mg/l	2.0	2.0	--- U		--- U	--- U	07/08/15	TRB	5210B-01
COD, mg/l	20.0	20.0	20		--- U	52	07/14/15	TRB	H8000-79
Nitrate Nitrogen as N, mg/l	0.04	10.0	5.50 J		2.10 J	0.35 J	07/10/15	KDB	353.2 R2-93
Total Organic Carbon, mg/l	0.085	1.0	1.87		--- U	15.50	07/10/15	SEJ	5310C-00
Alkalinity (to pH 4.5), mg CaCO3/l	1.0	1.0	--- U		--- U	--- U	07/09/15	TRB	2320B-97
Chloride, mg/l	5.0	5.0	41		7	46	07/13/15	SDB	4500CLB-97
Sulfate, mg/l	5.0	250.0	--- U		--- U	39.3 J	07/13/15	TRB	4500SO42E97
Antimony, ug/l	0.02	6.0	0.20 J		0.14 J	0.16 J	07/21/15	LFJ	EPA200.8
Arsenic, ug/l	0.14	10.0	0.57 J		--- U	0.41 J	07/21/15	LFJ	EPA200.8
Barium, ug/l	0.01	100.0	169		49.3 J	142	07/22/15	LFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	0.28 J		0.13 J	0.23 J	07/21/15	LFJ	EPA200.8
Cadmium, ug/l	0.01	1.0	0.22 J		0.07 J	0.38 J	07/21/15	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	4.8 J		0.44 J	3.8 J	07/22/15	LFJ	EPA200.8
Total Chromium, ug/l	0.12	10.0	--- U		--- U	--- U	07/21/15	LFJ	EPA200.8
Copper, ug/l	0.02	10.0	0.38 J		0.31 J	0.48 J	07/22/15	LFJ	EPA200.8
Iron, ug/l	11.53	300.0	445		56 J	82 J	07/15/15	JMN	3111B-99
Lead, ug/l	0.03	10.0	0.08 J		0.11 J	0.04 J	07/21/15	LFJ	EPA200.8
Mercury, ug/l	0.05	0.20	2.6		--- U	--- U	07/10/15	MTH	245.1 R3-94
Nickel, ug/l	0.01	50.0	7.7 J		1.1 J	5.2 J	07/22/15	LFJ	EPA200.8
Selenium, ug/l	0.22	10.0	1.7 J		0.28 J	1.8 J	07/22/15	LFJ	EPA200.8
Silver, ug/l	0.01	10.0	--- U		0.06 J	0.03 J	07/22/15	LFJ	EPA200.8
Thallium, ug/l	0.02	5.5	0.06 J		0.05 J	0.05 J	07/21/15	LFJ	EPA200.8
Tin, ug/l	0.06	100.0	--- U		17.7 J	0.08 J	07/21/15	LFJ	EPA200.8
Vanadium, ug/l	0.22	25.0	--- U		--- U	--- U	07/21/15	LFJ	EPA200.8
Zinc, ug/l	0.20	10.0	29		13	7.4 J	07/21/15	LFJ	EPA200.8
Sulfide, ug/l	100	1000	--- U		--- U	--- U	07/08/15	LFJ	4500S2D-00
Conductivity (at 25c), uMhos/cm	1.0	1.0	225		78	337	07/08/15	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	7.13		1.88	5.52	07/08/15	BF	4500OG-01
Temperature, °C			24		23	23	07/08/15	BF	2550B-00
Iron, Ferrous, ug/l	50.00	300.0	--- U		--- U	--- U	07/08/15	SEJ	3500FEB-97
Static Water Level, feet			6.17	20.26	12.43	15.77	07/08/15	BF	
Well Depth, feet			21.17		35.89	38.76	07/08/15	BF	
Carbon Dioxide, mg/l	1.0	1.0	140		164	510	07/09/15	TRB	4500CO2C
ORP, mv			+76		+45	+55	07/08/15	BF	2580B
Turbidity (Field), NTU	1.0	1.0	1.50		--- U	--- U	07/08/15	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: 07/08/15
DATE EXTRACTED: 07/10/15
DATE ANALYZED: 07/24/15
DATE REPORTED: 08/31/15

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

CLIENT ID: 6009

ANALYST: CHS
DATE COLLECTED: 07/08/15
DATE EXTRACTED: 07/13/15
DATE ANALYZED: 07/28/15
DATE REPORTED: 08/31/15

REVIEWED BY: _____

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

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: 07/08/15
DATE ANALYZED: 07/15/15
DATE REPORTED: 08/31/15

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	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U	--- U	--- 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	0.50 J	0.50 J	0.50 J	0.50 J	0.50 J
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	0.80 J	--- U	--- U	0.50 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	2.80 J	--- U	--- U	0.40 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

CLIENT ID: 6009

ANALYST: CHS
DATE COLLECTED: 07/08/15
DATE EXTRACTED: 07/10/15
DATE ANALYZED: 08/03/15
DATE REPORTED: 08/31/15

REVIEWED BY: _____

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

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3
1. Acenaphthene	2.66	10.0	--- U	--- U
2. Acenaphthylene	2.60	10.0	--- U	--- U
3. Anthracene	2.97	10.0	--- U	--- U
4. Benzo[a]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. Ieophorone	3.74	10.0	--- U	--- U
31. Nitrobenzene	2.85	10.0	--- U	--- U
32. N-Nitrosodimethylamine	4.25	10.0	--- U	--- U
33. N-Nitrosodiphenylamine	3.95	10.0	--- U	--- U
34. N-Nitrosodi-N-Propylamine	4.06	10.0	--- U	--- U
35. Phenanthrene	3.24	10.0	--- U	--- U
36. Pyrene	3.63	10.0	--- U	--- U
37. 4-Chloro-3-Methylphenol	3.79	20.0	--- U	--- U
38. 2-Chlorophenol	2.75	10.0	--- U	--- U
39. O-Cresol	3.68	10.0	--- U	--- U
40. P-Cresol	4.12	10.0	--- U	--- U
41. 2,4-Dichlorophenol	5.19	10.0	--- U	--- U
42. 2,6-Dichlorophenol	4.89	10.0	--- U	--- U
43. 2,4-Dimethylphenol	3.21	10.0	--- U	--- U
44. 4,6-Dinitro-2-Methylphenol	4.77	50.0	--- U	--- U
45. 2,4-Dinitrophenol	4.37	50.0	--- U	--- U
46. Ethyl Methanesulfonate	5.26	20.0	--- U	--- U
47. Methyl Methanesulfonate	4.92	10.0	--- U	--- U
48. 2-Nitrophenol	3.64	10.0	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

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

CLIENT ID: 6009

ANALYST: CHS
DATE COLLECTED: 07/08/15
DATE EXTRACTED: 07/10/15
DATE ANALYZED: 08/03/15
DATE REPORTED: 08/31/15

REVIEWED BY: _____

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

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3
49. 4-Nitrophenol	3.17	50.0	--- U	--- U
50. Pentachlorophenol	5.33	25.0	--- U	--- U
51. Phenol	1.86	10.0	--- U	--- U
52. 2,3,4,6-Tetrachlorophenol	3.12	10.0	--- U	--- U
53. 2,4,5-Trichlorophenol	4.17	10.0	--- U	--- U
54. 2,4,6-Trichlorophenol	3.84	10.0	--- U	--- U
55. Acetophenone	2.89	10.0	--- U	--- U
56. 2-Acetylaminofluorene	3.98	20.0	--- U	--- U
57. 4-Aminobiphenyl	4.12	20.0	--- U	--- U
58. Benzyl Alcohol	4.47	20.0	--- U	--- U
59. 4-Chloroaniline	3.36	20.0	--- U	--- U
60. Chlorobenzilate	5.12	10.0	--- U	--- U
61. 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

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

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REVIEWED BY: _____

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

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

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Environment 1, Incorporated

Drinking Water ID: 37715
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P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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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	3.50
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	1.50 J
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	5.00
15. 2-Butanone	2.21	100.0	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U
17. Chloroform	0.25	5.0	0.50 J	0.50 J
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	1.70
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	0.20 J
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	1.70 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	1.40
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

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COUNTY OF LENOIR
MR. TOM MILLER
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CLIENT ID: 6009

ANALYST: MAO
DATE COLLECTED: 07/08/15
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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 ☐ _____

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	BOD	COD	Nitrate	TOC	Alkalinity	Chloride	Cyanide	Sulfate	Metals	Sulfide	Conductivity	DO	Temperature	Ferrous Iron	Field Parameter
CHLORINE NEUTRALIZED AT COLLECTION													Yes								
pH CHECK (LAB)								<2		<2			>12	>12							
CONTAINER TYPE, P/G						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	
MW-1	7-8-15	1430		22	19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-3	7-8-15	1155		25	18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-4	7-8-15	1240		25	13	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
MW-6	7-8-15	1348		26	13	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
MW-8	7-8-15	1225			1																X
MW-9	7-8-15	1030		24	13	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
MW-10	7-8-15	1235			1																X
MW-11	7-8-15	0845		23	13	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
MW-12	7-8-15	0945		23	13	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X

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 (SEAL) MAINTAINED DURING SHIPMENT/DELIVERY: N

SAMPLES COLLECTED BY: (Please Print) Bobby Fox / Tom Beasley

SAMPLES RECEIVED IN LAB AT 0.7 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fox	7-8-15 4:02	[signature]	7/8/15 403
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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

FORM #5

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

№ 300126

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)						a	a	a				a	a	a				
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	7-8-15	1430		22	19				☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
MW-3	7-8-15	1155		25	18				☒	☒	☒	☒	☒		☒	☒	☒	☒
MW-4	7-8-15	1340		25	13	☒	☒									☒	☒	☒
MW-6	7-8-15	1348		26	13	☒		☒								☒	☒	☒
MW-8	7-8-15	1225			1													
MW-9	7-8-15	1030		24	13	☒	☒									☒	☒	☒
MW-10	7-8-15	1235			1													
MW-11	7-8-15	0845		23	13	☒	☒									☒	☒	☒
MW-12	7-8-15	0945		23	13	☒	☒									☒	☒	☒

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 (SEAL) MAINTAINED DURING SHIPMENT/DELIVERY
(Y) N

SAMPLES COLLECTED BY: (Please Print)
Bobby Fox / Tom Brasley

SAMPLES RECEIVED IN LAB AT 0.7 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fox	7-8-15 4:02		7/8/15 1600
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5

№ 300125

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: 07/08/15
DATE REPORTED : 08/24/15

REVIEWED BY:

PARAMETERS	MDL	SWSL	SW-1	SW-3	Analysis Date	Analyst	Method Code
PH (field measurement), Units			Missing	6.3	07/08/15	BF	4500HB-00
Antimony, ug/l	0.02	6.0	Missing	0.06 J	07/21/15	LFJ	EPA200.8
Arsenic, ug/l	0.14	10.0	Missing	3.1 J	07/21/15	LFJ	EPA200.8
Barium, ug/l	0.01	100.0	Missing	68.5 J	07/22/15	LFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	Missing	0.03 J	07/21/15	LFJ	EPA200.8
Cadmium, ug/l	0.01	1.0	Missing	0.01 J	07/21/15	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	Missing	0.60 J	07/22/15	LFJ	EPA200.8
Total Chromium, ug/l	0.12	10.0	Missing	0.22 J	07/21/15	LFJ	EPA200.8
Copper, ug/l	0.02	10.0	Missing	0.54 J	07/22/15	LFJ	EPA200.8
Lead, ug/l	0.03	10.0	Missing	0.78 J	07/21/15	LFJ	EPA200.8
Nickel, ug/l	0.01	50.0	Missing	0.96 J	07/22/15	LFJ	EPA200.8
Selenium, ug/l	0.22	10.0	Missing	0.24 J	07/22/15	LFJ	EPA200.8
Silver, ug/l	0.01	10.0	Missing	--- U	07/22/15	LFJ	EPA200.8
Thallium, ug/l	0.02	5.5	Missing	--- U	07/21/15	LFJ	EPA200.8
Vanadium, ug/l	0.22	25.0	Missing	0.74 J	07/21/15	LFJ	EPA200.8
Zinc, ug/l	0.20	10.0	Missing	6.6 J	07/21/15	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	Missing	118	07/08/15	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	Missing	5.05	07/08/15	BF	4500OG-01
Temperature, °C			Missing	25	07/08/15	BF	2550B-00
ORP, mv			Missing	+65	07/08/15	BF	2580B
Turbidity (Field), NTU	1.0	1.0	Missing	15.9	07/08/15	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

CLIENT ID: 6009 A

ANALYST: MAO
DATE COLLECTED: 07/08/15
DATE ANALYZED: 07/15/15
DATE REPORTED: 08/24/15

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	SW-3
1. Chloromethane	0.77	1.0	--- U
2. Vinyl Chloride	0.63	1.0	--- U
3. Bromomethane	0.67	10.0	--- U
4. Chloroethane	0.48	10.0	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U
7. Acetone	9.06	100.0	--- U
8. Iodomethane	0.26	10.0	--- U
9. Carbon Disulfide	0.23	100.0	--- U
10. Methylene Chloride	0.64	1.0	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U
13. Vinyl Acetate	0.20	50.0	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U
15. 2-Butanone	2.21	100.0	--- U
16. Bromochloromethane	0.27	3.0	--- U
17. Chloroform	0.25	5.0	0.50 J
18. 1,1,1-Trichloroethane	0.19	1.0	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U
20. Benzene	0.24	1.0	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U
22. Trichloroethene	0.23	1.0	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U
24. Bromodichloromethane	0.21	1.0	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U
27. Toluene	0.23	1.0	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U
30. Tetrachloroethene	0.17	1.0	--- U
31. 2-Hexanone	1.57	50.0	--- U
32. Dibromochloromethane	0.24	3.0	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U
34. Chlorobenzene	0.30	3.0	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U
36. Ethylbenzene	0.21	1.0	--- U
37. Xylenes	0.68	5.0	--- U
38. Dibromomethane	0.28	10.0	--- U
39. Styrene	0.19	1.0	--- U
40. Bromoform	0.20	3.0	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U
46. Acrylonitrile	2.72	200.0	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U

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 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
						12					2	2	2		
						P	P	P	P	P	G	G	G	P	P
						A	A	A	A	A	E	E	E	A	A
SW-1					5										
SW-3	7-8-15	0745		25	5										

PARAMETERS/TESTS

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

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

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

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

SAMPLES COLLECTED BY:
(Please Print)
Bobby Fox / Tom Beasley

SAMPLES RECEIVED IN LAB AT 0.7 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fox	7-8-15 | 4:02		7/8/15 | 403
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS: SW-1 Dry

FORM #5

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.

№ 300124

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

July 21, 2015

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

RE: **LENOIR CO. / 6009**
Pace Workorder: *16075*

Dear Steve Jones:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, July 10, 2015. 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 07/21/2015 RLO
rrobl@microseeps.com 7/22/15

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 29

CERTIFICATE OF ANALYSIS

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: 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, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

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

SAMPLE SUMMARY

Workorder: 16075 LENOIR CO. / 6009

Lab ID	Sample ID	Matrix	Date Collected	Date Received
160750001	MW1	Water	7/8/2015 14:30	7/10/2015 11:00
160750002	MW1	Bubble Strip	7/8/2015 14:30	7/10/2015 11:00
160750003	MW3	Water	7/8/2015 11:55	7/10/2015 11:00
160750004	MW3	Bubble Strip	7/8/2015 11:55	7/10/2015 11:00
160750005	MW4	Water	7/8/2015 12:40	7/10/2015 11:00
160750006	MW4	Bubble Strip	7/8/2015 12:40	7/10/2015 11:00
160750007	MW6	Water	7/8/2015 13:48	7/10/2015 11:00
160750008	MW6	Bubble Strip	7/8/2015 13:48	7/10/2015 11:00
160750009	MW9	Water	7/8/2015 10:30	7/10/2015 11:00
160750010	MW9	Bubble Strip	7/8/2015 10:30	7/10/2015 11:00
160750011	MW11	Water	7/8/2015 08:45	7/10/2015 11:00
160750012	MW11	Bubble Strip	7/8/2015 08:45	7/10/2015 11:00
160750013	MW12	Water	7/8/2015 09:45	7/10/2015 11:00
160750014	MW12	Bubble Strip	7/8/2015 09:45	7/10/2015 11:00

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

PROJECT SUMMARY

Workorder: 16075 LENOIR CO. / 6009

Batch Comments

Batch: EDON/2582 - Low Level Volatile Fatty Acids

The method blank contain a concentration above the MDL, but below the PQL. Analyte Acetic acid. Results for this analyte in associated samples may be bias high.

Batch: EDON/2585 - Low Level Volatile Fatty Acids

The method blank contain a concentration above the MDL, but below the PQL. Analyte Lactic, Acetic and Formic acid. Results for this analyte in associated samples may be bias high.

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

ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750001** Date Received: 7/10/2015 11:00 Matrix: Water

Sample ID: **MW1** Date Collected: 7/8/2015 14:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - MICR								
Analysis Desc: AM23G		Analytical Method: AM23G						
Lactic Acid	**0.012U**	mg/l	0.10	0.012	1	7/15/2015 00:02	KB	
Acetic Acid	**0.016J**	mg/l	0.070	0.0080	1	7/15/2015 00:02	KB	B
Propionic Acid	**0.011U**	mg/l	0.050	0.011	1	7/15/2015 00:02	KB	
Butyric Acid	**0.0070U**	mg/l	0.050	0.0070	1	7/15/2015 00:02	KB	
Pyruvic Acid	**0.0090U**	mg/l	0.15	0.0090	1	7/15/2015 00:02	KB	
i-Pentanoic Acid	**0.0080U**	mg/l	0.15	0.0080	1	7/15/2015 00:02	KB	
Pentanoic Acid	**0.014U**	mg/l	0.070	0.014	1	7/15/2015 00:02	KB	
i-Hexanoic Acid	**0.10U**	mg/l	0.20	0.10	1	7/15/2015 00:02	KB	
Hexanoic Acid	**0.12U**	mg/l	0.50	0.12	1	7/15/2015 00:02	KB	

CERTIFICATE OF ANALYSIS

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

ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750002** Date Received: 7/10/2015 11:00 Matrix: Bubble Strip

Sample ID: **MW1** Date Collected: 7/8/2015 14:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**1100**	ug/l	0.015	0.0060	1	7/17/2015 11:59	TD	n
Ethane	**0.11**	ug/l	0.010	0.0010	1	7/17/2015 11:59	TD	n
Ethene	**0.070**	ug/l	0.010	0.0080	1	7/17/2015 11:59	TD	n
Hydrogen	**2.9**	nM	0.60	0.13	1	7/17/2015 11:59	TD	n

CERTIFICATE OF ANALYSIS

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

ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750003** Date Received: 7/10/2015 11:00 Matrix: Water

Sample ID: **MW3** Date Collected: 7/8/2015 11:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - MICR								
Analysis Desc: AM23G			Analytical Method: AM23G					
Lactic Acid	**0.012U**	mg/l	0.10	0.012	1	7/15/2015 00:51	KB	
Acetic Acid	**0.014J**	mg/l	0.070	0.0080	1	7/15/2015 00:51	KB	B
Propionic Acid	**0.011U**	mg/l	0.050	0.011	1	7/15/2015 00:51	KB	
Butyric Acid	**0.0070U**	mg/l	0.050	0.0070	1	7/15/2015 00:51	KB	
Pyruvic Acid	**0.0090U**	mg/l	0.15	0.0090	1	7/15/2015 00:51	KB	
i-Pentanoic Acid	**0.0080U**	mg/l	0.15	0.0080	1	7/15/2015 00:51	KB	
Pentanoic Acid	**0.014U**	mg/l	0.070	0.014	1	7/15/2015 00:51	KB	
i-Hexanoic Acid	**0.10U**	mg/l	0.20	0.10	1	7/15/2015 00:51	KB	
Hexanoic Acid	**0.12U**	mg/l	0.50	0.12	1	7/15/2015 00:51	KB	

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

ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750004** Date Received: 7/10/2015 11:00 Matrix: Bubble Strip

Sample ID: **MW3** Date Collected: 7/8/2015 11:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**720**	ug/l	0.015	0.0060	1	7/17/2015 12:12	TD	n
Ethane	**0.12**	ug/l	0.010	0.0010	1	7/17/2015 12:12	TD	n
Ethene	**0.24**	ug/l	0.010	0.0080	1	7/17/2015 12:12	TD	n
Hydrogen	**2.6**	nM	0.60	0.13	1	7/17/2015 12:12	TD	n

CERTIFICATE OF ANALYSIS

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

ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750005** Date Received: 7/10/2015 11:00 Matrix: Water

Sample ID: **MW4** Date Collected: 7/8/2015 12:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - MICR								
Analysis Desc: AM23G			Analytical Method: AM23G					
Lactic Acid	**0.012U**	mg/l	0.10	0.012	1	7/15/2015 01:39	KB	
Acetic Acid	**0.020J**	mg/l	0.070	0.0080	1	7/15/2015 01:39	KB	B
Propionic Acid	**0.011U**	mg/l	0.050	0.011	1	7/15/2015 01:39	KB	
Butyric Acid	**0.0070U**	mg/l	0.050	0.0070	1	7/15/2015 01:39	KB	
Pyruvic Acid	**0.0090U**	mg/l	0.15	0.0090	1	7/15/2015 01:39	KB	
i-Pentanoic Acid	**0.0080U**	mg/l	0.15	0.0080	1	7/15/2015 01:39	KB	
Pentanoic Acid	**0.014U**	mg/l	0.070	0.014	1	7/15/2015 01:39	KB	
i-Hexanoic Acid	**0.10U**	mg/l	0.20	0.10	1	7/15/2015 01:39	KB	
Hexanoic Acid	**0.12U**	mg/l	0.50	0.12	1	7/15/2015 01:39	KB	

CERTIFICATE OF ANALYSIS

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

ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750006** Date Received: 7/10/2015 11:00 Matrix: Bubble Strip

Sample ID: **MW4** Date Collected: 7/8/2015 12:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**2100**	ug/l	0.015	0.0060	1	7/17/2015 12:25	TD	n
Ethane	**0.057**	ug/l	0.010	0.0010	1	7/17/2015 12:25	TD	n
Ethene	**0.020**	ug/l	0.010	0.0080	1	7/17/2015 12:25	TD	n
Hydrogen	**3.2**	nM	0.60	0.13	1	7/17/2015 12:25	TD	n

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ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750007** Date Received: 7/10/2015 11:00 Matrix: Water

Sample ID: **MW6** Date Collected: 7/8/2015 13:48

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - MICR								
Analysis Desc: AM23G			Analytical Method: AM23G					
Lactic Acid	**0.067J**	mg/l	0.10	0.012	1	7/15/2015 02:26	KB	
Acetic Acid	**0.038J**	mg/l	0.070	0.0080	1	7/15/2015 02:26	KB	B
Propionic Acid	**0.011U**	mg/l	0.050	0.011	1	7/15/2015 02:26	KB	
Butyric Acid	**0.0070U**	mg/l	0.050	0.0070	1	7/15/2015 02:26	KB	
Pyruvic Acid	**0.0090U**	mg/l	0.15	0.0090	1	7/15/2015 02:26	KB	
i-Pentanoic Acid	**0.0080U**	mg/l	0.15	0.0080	1	7/15/2015 02:26	KB	
Pentanoic Acid	**0.014U**	mg/l	0.070	0.014	1	7/15/2015 02:26	KB	
i-Hexanoic Acid	**0.10U**	mg/l	0.20	0.10	1	7/15/2015 02:26	KB	
Hexanoic Acid	**0.12U**	mg/l	0.50	0.12	1	7/15/2015 02:26	KB	

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ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750008** Date Received: 7/10/2015 11:00 Matrix: Bubble Strip
Sample ID: **MW6** Date Collected: 7/8/2015 13:48

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**2300**	ug/l	0.015	0.0060	1	7/17/2015 12:38	TD	n
Ethane	**0.12**	ug/l	0.010	0.0010	1	7/17/2015 12:38	TD	n
Ethene	**0.040**	ug/l	0.010	0.0080	1	7/17/2015 12:38	TD	n
Hydrogen	2.7	nM	0.60	0.13	1	7/17/2015 12:38	TD	n

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ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750009** Date Received: 7/10/2015 11:00 Matrix: Water

Sample ID: **MW9** Date Collected: 7/8/2015 10:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - MICR								
Analysis Desc: AM23G			Analytical Method: AM23G					
Lactic Acid	**0.012U**	mg/l	0.10	0.012	1	7/15/2015 10:48	KB	
Acetic Acid	**0.022J**	mg/l	0.070	0.0080	1	7/15/2015 10:48	KB	B
Propionic Acid	**0.011U**	mg/l	0.050	0.011	1	7/15/2015 10:48	KB	
Butyric Acid	**0.13**	mg/l	0.050	0.0070	1	7/15/2015 10:48	KB	
Pyruvic Acid	**0.0090U**	mg/l	0.15	0.0090	1	7/15/2015 10:48	KB	
i-Pentanoic Acid	**0.0080U**	mg/l	0.15	0.0080	1	7/15/2015 10:48	KB	
Pentanoic Acid	**0.034J**	mg/l	0.070	0.014	1	7/15/2015 10:48	KB	
i-Hexanoic Acid	**0.10U**	mg/l	0.20	0.10	1	7/15/2015 10:48	KB	
Hexanoic Acid	**0.12U**	mg/l	0.50	0.12	1	7/15/2015 10:48	KB	

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ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750010** Date Received: 7/10/2015 11:00 Matrix: Bubble Strip

Sample ID: **MW9** Date Collected: 7/8/2015 10:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**420**	ug/l	0.015	0.0060	1	7/17/2015 12:50	TD	n
Ethane	**0.0037J**	ug/l	0.010	0.0010	1	7/17/2015 12:50	TD	n
Ethene	**0.051**	ug/l	0.010	0.0080	1	7/17/2015 12:50	TD	n
Hydrogen	**2.8**	nM	0.60	0.13	1	7/17/2015 12:50	TD	n

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ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750011** Date Received: 7/10/2015 11:00 Matrix: Water

Sample ID: **MW11** Date Collected: 7/8/2015 08:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - MICR								
Analysis Desc: AM23G			Analytical Method: AM23G					
Lactic Acid	**0.012U**	mg/l	0.10	0.012	1	7/16/2015 02:48	KB	B
Acetic Acid	**0.017J**	mg/l	0.070	0.0080	1	7/16/2015 02:48	KB	B
Propionic Acid	**0.011U**	mg/l	0.050	0.011	1	7/16/2015 02:48	KB	
Butyric Acid	**0.0070U**	mg/l	0.050	0.0070	1	7/16/2015 02:48	KB	
Pyruvic Acid	**0.0090U**	mg/l	0.15	0.0090	1	7/16/2015 02:48	KB	
i-Pentanoic Acid	**0.0080U**	mg/l	0.15	0.0080	1	7/16/2015 02:48	KB	
Pentanoic Acid	**0.014U**	mg/l	0.070	0.014	1	7/16/2015 02:48	KB	
i-Hexanoic Acid	**0.10U**	mg/l	0.20	0.10	1	7/16/2015 02:48	KB	
Hexanoic Acid	**0.12U**	mg/l	0.50	0.12	1	7/16/2015 02:48	KB	

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ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750012** Date Received: 7/10/2015 11:00 Matrix: Bubble Strip

Sample ID: **MW11** Date Collected: 7/8/2015 08:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**2600**	ug/l	0.015	0.0060	1	7/17/2015 13:03	TD	n
Ethane	**0.18**	ug/l	0.010	0.0010	1	7/17/2015 13:03	TD	n
Ethene	**0.046**	ug/l	0.010	0.0080	1	7/17/2015 13:03	TD	n
Hydrogen	**2.7**	nM	0.60	0.13	1	7/17/2015 13:03	TD	n

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ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750013** Date Received: 7/10/2015 11:00 Matrix: Water
Sample ID: **MW12** Date Collected: 7/8/2015 09:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
EDonors - MICR								
Analysis Desc: AM23G			Analytical Method: AM23G					
Lactic Acid	**0.023J**	mg/l	0.10	0.012	1	7/15/2015 12:25	KB	
Acetic Acid	**0.024J**	mg/l	0.070	0.0080	1	7/15/2015 12:25	KB	B
Propionic Acid	**0.011U**	mg/l	0.050	0.011	1	7/15/2015 12:25	KB	
Butyric Acid	**0.29**	mg/l	0.050	0.0070	1	7/15/2015 12:25	KB	
Pyruvic Acid	**0.0090U**	mg/l	0.15	0.0090	1	7/15/2015 12:25	KB	
i-Pentanoic Acid	**0.0080U**	mg/l	0.15	0.0080	1	7/15/2015 12:25	KB	
Pentanoic Acid	**0.063J**	mg/l	0.070	0.014	1	7/15/2015 12:25	KB	
i-Hexanoic Acid	**0.10U**	mg/l	0.20	0.10	1	7/15/2015 12:25	KB	
Hexanoic Acid	**0.12U**	mg/l	0.50	0.12	1	7/15/2015 12:25	KB	

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ANALYTICAL RESULTS

Workorder: 16075 LENOIR CO. / 6009

Lab ID: **160750014** Date Received: 7/10/2015 11:00 Matrix: Bubble Strip

Sample ID: **MW12** Date Collected: 7/8/2015 09:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - MICR								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**280**	ug/l	0.015	0.0060	1	7/17/2015 13:16	TD	n
Ethane	**0.020**	ug/l	0.010	0.0010	1	7/17/2015 13:16	TD	n
Ethene	**0.097**	ug/l	0.010	0.0080	1	7/17/2015 13:16	TD	n
Hydrogen	**2.9**	nM	0.60	0.13	1	7/17/2015 13:16	TD	n

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 16075 LENOIR CO. / 6009

DEFINITIONS/QUALIFIERS

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

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical 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).
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.
B	The analyte was detected in the associated blank.

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QUALITY CONTROL DATA

Workorder: 16075 LENOIR CO. / 6009

QC Batch: EDON/2582 Analysis Method: AM23G

QC Batch Method: AM23G

Associated Lab Samples: 160750001, 160750003, 160750005, 160750007, 160750009, 160750013

METHOD BLANK: 36103

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EDonors				
Lactic Acid	mg/l	0.012U	0.012	
Acetic Acid	mg/l	0.0084J	0.0080	B
Propionic Acid	mg/l	0.011U	0.011	
Butyric Acid	mg/l	0.0070U	0.0070	
Pyruvic Acid	mg/l	0.0090U	0.0090	
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: 36104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors						
Lactic Acid	mg/l	2	1.9	94	70-130	
Acetic Acid	mg/l	2	2.0	98	70-130	
Propionic Acid	mg/l	2	2.0	100	70-130	
Butyric Acid	mg/l	2	2.0	98	70-130	
Pyruvic Acid	mg/l	2	1.8	90	70-130	
i-Pentanoic Acid	mg/l	2	1.9	95	70-130	
Pentanoic Acid	mg/l	2	1.9	93	70-130	
i-Hexanoic Acid	mg/l	2	1.8	93	70-130	
Hexanoic Acid	mg/l	2	1.8	88	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36105 36106 Original: 160570001

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	0.015	2	1.9	1.9	94	94	70-130	0	30	
Acetic Acid	mg/l	0.13	2	2.1	2.1	98	99	70-130	1	30	
Propionic Acid	mg/l	0.005	2	2.0	2.0	100	100	70-130	0	30	

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QUALITY CONTROL DATA

Workorder: 16075 LENOIR CO. / 6009

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36105 36106 Original: 160570001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Butyric Acid	mg/l	0.0029	2	2.0	2.0	99	99	70-130	0	30	
Pyruvic Acid	mg/l	0.0022	2	1.8	1.8	90	91	70-130	1.1	30	
i-Pentanoic Acid	mg/l	0	2	1.9	1.9	95	95	70-130	0	30	
Pentanoic Acid	mg/l	0	2	1.9	1.9	94	95	70-130	1.1	30	
i-Hexanoic Acid	mg/l	0	2	2.0	2.0	100	99	70-130	1	30	
Hexanoic Acid	mg/l	0.0039	2	1.9	1.8	93	93	70-130	0	30	

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QUALITY CONTROL DATA

Workorder: 16075 LENOIR CO. / 6009

QC Batch: DISG/4714 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 160750002, 160750004, 160750006, 160750008, 160750010, 160750012, 160750014

METHOD BLANK: 36154

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

METHOD BLANK: 36156

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

LABORATORY CONTROL SAMPLE & LCSD: 36157 36160

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Methane	ug/l	16	16	16	99	99	80-120	0	20	d,n
Ethane	ug/l	13	13	13	100	99	80-120	1	20	d,n
Ethene	ug/l	32	32	32	99	98	80-120	1	20	d,n

LABORATORY CONTROL SAMPLE & LCSD: 36159 36162

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Hydrogen	nM	49	56	56	116	115	80-120	0.87	20	d,n

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QUALITY CONTROL DATA

Workorder: 16075 LENOIR CO. / 6009

QC Batch: EDON/2585 Analysis Method: AM23G

QC Batch Method: AM23G

Associated Lab Samples: 160750011

METHOD BLANK: 36199

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EDonors				
Lactic Acid	mg/l	0.012U	0.012	B
Acetic Acid	mg/l	0.0098J	0.0080	B
Propionic Acid	mg/l	0.011U	0.011	
Butyric Acid	mg/l	0.0070U	0.0070	
Pyruvic Acid	mg/l	0.0090U	0.0090	
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: 36200

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors						
Lactic Acid	mg/l	2	1.9	94	70-130	
Acetic Acid	mg/l	2	2.0	98	70-130	
Propionic Acid	mg/l	2	2.0	100	70-130	
Butyric Acid	mg/l	2	2.0	98	70-130	
Pyruvic Acid	mg/l	2	1.8	90	70-130	
i-Pentanoic Acid	mg/l	2	1.9	95	70-130	
Pentanoic Acid	mg/l	2	1.9	94	70-130	
i-Hexanoic Acid	mg/l	2	1.9	95	70-130	
Hexanoic Acid	mg/l	2	1.8	89	70-130	

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QUALITY CONTROL DATA QUALIFIERS

Workorder: 16075 LENOIR CO. / 6009

QUALITY CONTROL PARAMETER QUALIFIERS

B	The analyte was detected in the associated blank.
d	The analyte concentration was determined from a dilution.
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 16075 LENOIR CO. / 6009

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
160750001	MW1			AM23G	EDON/2582
160750003	MW3			AM23G	EDON/2582
160750005	MW4			AM23G	EDON/2582
160750007	MW6			AM23G	EDON/2582
160750009	MW9			AM23G	EDON/2582
160750013	MW12			AM23G	EDON/2582
160750002	MW1			AM20GAX	DISG/4714
160750004	MW3			AM20GAX	DISG/4714
160750006	MW4			AM20GAX	DISG/4714
160750008	MW6			AM20GAX	DISG/4714
160750010	MW9			AM20GAX	DISG/4714
160750012	MW11			AM20GAX	DISG/4714
160750014	MW12			AM20GAX	DISG/4714
160750011	MW11			AM23G	EDON/2585

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16075

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

004686

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: ENVIRONMENTAL INC	Report To: STEVE JONES	Attention:
Address: 114 OAKMONT DR. GREENVILLE NC 27858	Copy To:	Company Name: SAME
Email To: JONES01@AOL.COM	Purchase Order No.:	Address:
Phone: 252-756-6208 Fax: 252-756-0633	Project Name: LENOIR CO.	Pace Quote Reference:
Requested Due Date/TAT:	Project Number: 6009	Pace Project Manager:
		Pace Profile #:

REGULATORY AGENCY

NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE	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	Zinc Acetate & NaOH	Other	Analysis Test ↓ Y/N	LLUFA	NYDROCON	METHANE/ETHANE/ETHENE									Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW 1	DW	DW	G			7/8/15	2:30P		6										X	X	X										
2	MW 3							1:55A		6										X	X	X										
3	MW 4							2:40P		6										X	X	X										
4	MW 6							1:48P		6										X	X	X										
5	MW 9							10:30A		6										X	X	X										
6	MW 11							9:45A		6										X	X	X										
7	MW 12							8:45A		6										X	X	X										
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
FACILITY ID# 5403	Tom Beasley/EI	7-8-15	4:00p	/E.I	7/8/15	4:00p				
	/ST	7/9/15	2:30p	PACE	7/9/15	1100	2.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: TOM BEASLEY

SIGNATURE of SAMPLER: Tom Beasley

DATE Signed (MM/DD/YY): 7-8-15

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

*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

NON-CONFORMANCE FORM

PAES Work Order #: 16075

Date: 7.10.15 Time of Receipt: 1100 Receiver: LY

Client: Environment 1

REASON FOR NON-CONFORMANCE:

MW 11 & MW12: Times of collection swapped between vials & COC

ACTION TAKEN:

Client name: Steve Jones Date: 7/10/15 Time: email

Per attached email - sample vials have correct collection times.

MW11- collected at 8:45 am

MW12- collected at 9:45 am

Customer Service Initials: RL Date: 7/13/15

Robbin Robl 16075

From: Stephen E Jones <sjonese1@aol.com>
Sent: Monday, July 13, 2015 8:28 AM
To: Robbin Robl
Subject: Re: Lenoir Co.

HI Robin,

The vials have the correct times. MW11 was collected at 8:45am and MW12 was collected at 9:45am.

Thanks for your assistance,

Steve Jones
Environment 1

sjonese1@aol.com

-----Original Message-----
From: Robbin Robl <rrobl@microseeps.com>
To: Stephen E Jones <sjonese1@aol.com>
Sent: Fri, Jul 10, 2015 4:32 pm
Subject: Lenoir Co.

Hi Steve,

We received samples today for your project Lenoir Co. I received a non-conformance as the sample collection times were swapped on the vials for samples MW 11 and MW 12.

The COC indicates a collection time of 9:45 for sample MW 11 and a collection time of 8:45 for sample MW 12. These are reversed on the vials.

I would appreciate it if you can please tell me which collection times are correct for reporting purposes.

Thank you!
Robbin

Robbin Robl
Project Manager

Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Direct: 412-826-4483
Fax: 412-826-3433
Main: 412-826-5245

Cooler Receipt Form

Client Name: Environment 1 Project: Lenoir Co. 6009 Lab Work Order: 16025

A. Shipping/Container Information (circle appropriate response)

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

Tracking Number: 1Z 203 705 01 7589 2488

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	✓			
PAES 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: LS Date: 7.10.15

Project Manager Review: AR Date: 7/10/15

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

ID#: 6010

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

DATE COLLECTED: 07/07/15
DATE REPORTED : 08/24/15

REVIEWED BY:

PARAMETERS	MDL	Equipment SWSL	Blank	Trip Blank	Field Blank	Analysis Date	Analyst	Method Code
Antimony, ug/l	0.02	6.0	--- U		0.05 J	07/21/15	LFJ	EPA200.8
Arsenic, ug/l	0.14	10.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Barium, ug/l	0.01	100.0	--- U		--- U	07/22/15	LFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	--- U		0.02 J	07/21/15	LFJ	EPA200.8
Cadmium, ug/l	0.01	1.0	0.01 J		0.01 J	07/21/15	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	--- U		--- U	07/22/15	LFJ	EPA200.8
Total Chromium, ug/l	0.12	10.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Copper, ug/l	0.02	10.0	0.16 J		0.30 J	07/22/15	LFJ	EPA200.8
Lead, ug/l	0.03	10.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Mercury, ug/l	0.05	0.20	--- U			07/29/15	MTM	245.1 R3-94
Nickel, ug/l	0.01	50.0	0.13 J		0.30 J	07/22/15	LFJ	EPA200.8
Selenium, ug/l	0.22	10.0	--- U		--- U	07/22/15	LFJ	EPA200.8
Silver, ug/l	0.01	10.0	--- U		--- U	07/22/15	LFJ	EPA200.8
Thallium, ug/l	0.02	5.5	0.03 J		--- U	07/21/15	LFJ	EPA200.8
Vanadium, ug/l	0.22	25.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Zinc, ug/l	0.20	10.0	1.7 J		1.4 J	07/21/15	LFJ	EPA200.8

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

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

CLIENT ID: 6010

ANALYST: MAO
DATE COLLECTED: 07/07/15
DATE ANALYZED: 07/08/15
DATE REPORTED: 08/24/15

REVIEWED BY: _____

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	Equipment Blank	Trip Blank	Field Blank
1. Chloromethane	0.77	1.0	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U
14. Cis-1,2-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	0.30 J	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U
30. 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

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

CHAIN OF CUSTODY RECORD

Environ
P.O. Box 14 Oakmont Dr.
Greenville, NC 27858
environmentlinc.com
Phone (252) 756-6208 • Fax (252) 756-0633

CLIENT: 6010 **Week:** 33

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

(252) 566-4194

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Metals	EPA 8260B	8260 Dup. 1
						P	G	G
						A	E	E
Equipment Blank	7-7-15	0920			3	G	G	G
Trip Blank	7-7-15				2		G	G
Field Blank	7-7-15	0915			3	G	G	G

12 12 12

CHLORINE NEUTRALIZED AT COLLECTION
pH CHECK (LAB)
CONTAINER TYPE, P/G
CHEMICAL PRESERVATION
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 (SEAL) MAINTAINED DURING SHIPMENT/DELIVERY
(Y) N

SAMPLES COLLECTED BY:
(Please Print)
Tom Beasley

SAMPLES RECEIVED IN LAB AT 0.7 °

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Tom Beasley	7-7-15 1430		7/7/15 2330
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5

№ 300087

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: 07/08/15
DATE REPORTED : 08/24/15

REVIEWED BY:

PARAMETERS	MDL	Equipment SWSL	Blank	Trip Blank	Field Blank	Analysis Date	Analyst	Method Code
Antimony, ug/l	0.02	6.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Arsenic, ug/l	0.14	10.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Barium, ug/l	0.01	100.0	--- U		--- U	07/22/15	LFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Cadmium, ug/l	0.01	1.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	--- U		--- U	07/22/15	LFJ	EPA200.8
Total Chromium, ug/l	0.12	10.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Copper, ug/l	0.02	10.0	--- U		--- U	07/22/15	LFJ	EPA200.8
Lead, ug/l	0.03	10.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Mercury, ug/l	0.05	0.20	--- U			07/10/15	MTM	245.1 R3-94
Nickel, ug/l	0.01	50.0	0.05 J		0.02 J	07/22/15	LFJ	EPA200.8
Selenium, ug/l	0.22	10.0	--- U		--- U	07/22/15	LFJ	EPA200.8
Silver, ug/l	0.01	10.0	--- U		--- U	07/22/15	LFJ	EPA200.8
Thallium, ug/l	0.02	5.5	--- U		--- U	07/21/15	LFJ	EPA200.8
Vanadium, ug/l	0.22	25.0	--- U		--- U	07/21/15	LFJ	EPA200.8
Zinc, ug/l	0.20	10.0	0.75 J		1.2 J	07/21/15	LFJ	EPA200.8

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

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

CLIENT ID: 6010 A

ANALYST: MAO
DATE COLLECTED: 07/08/15
DATE ANALYZED: 07/22/15
DATE REPORTED: 08/24/15

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B R1(96)

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

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

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

CLIENT ID: 6010 A

ANALYST: MAO
DATE COLLECTED: 07/08/15
DATE ANALYZED: 07/22/15
DATE REPORTED: 08/24/15

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
- ☐ _____

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
						12/12/12		
						P	G	G
						A	E	E
Equipment Blank	7-8-15	0830			3	X	X	X
Trip Blank	7-8-15				2		X	X
Field Blank	7-8-15				3	X	X	X

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

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 (SEAL) MAINTAINED DURING SHIPMENT/DELIVERY
(Y) N

SAMPLES COLLECTED BY:
(Please Print)
Bobby Fox / Tom Brasby

SAMPLES RECEIVED IN LAB AT 0.7 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Fox	7-8-15 | 4:02		
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
			7/8/15 | 403
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

FORM #5

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 299107