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NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

RECEIVED
MAR - 5 2014
SOLID WASTE SECTION

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 occuring, 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. T 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: Comp e 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):

Quible & Associates, P.C. (on behalf of Currituck County)

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Steve Jones (Environment 1) Phone: 252.756.6208

E-mail:

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Currituck County Landfill	216 Airport Road	27-01	.0500	December 18, 2013

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☒ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify)
☐ 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.

Warren Dennis Eadus — Agent — 252.261.3300

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

Signature — Date: 2/20/14

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 1954 GEOLOGIST WARREN DENNIS EADUS

PO Drawer 870 Kitty Hawk, NC 27949

Facility Representative Address

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

Revised 6/2009

Quible

Quible & Associates, P.C.

ENGINEERING • ENVIRONMENTAL SCIENCES • PLANNING • SURVEYING

SINCE 1959

P.O. Drawer 870
Kitty Hawk, NC 27949
Phone: 252-261-3300
Fax: 252-261-1260
Web: quible.com

February 28, 2014

Donald Herndon
NC DENR-Division of Waste Mgt-Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

Re: Environmental Reporting Form
Currituck County MSW Landfill
Permit #27-01

Mr. Herndon:

Please find enclosed an Environmental Monitoring Reporting Form and associated data and documentation related to the groundwater and surface water sampling activities conducted at the above referenced facility on December 18, 2013 by Environment 1, Incorporated (Environment 1). Quible & Associates, P.C. (Quible) was asked to review the laboratory analytical data and provide the appropriate technical assistance in fulfilling the Division of Waste Management Solid Waste Sections' (Division) reporting requirements.

Based on the groundwater analytical results reported in the December 18, 2013 laboratory analytical report, the concentrations of arsenic reported in the groundwater samples collected from Well #6 (12 µg/L) exceed the 2L GQS. Concentrations of arsenic reported in the groundwater samples collected from Well #6 (10 µg/L) equal the SWSL.

Concentrations of barium reported in the groundwater samples collected from Well #8 (226 µg/L) exceed the SWSL.

Concentrations of benzene reported in the groundwater samples collected from Well #6 (1.70 µg/L) and Well #8 (1.20 µg/L) exceed the 2L GQS and the SWSL.

Based on the groundwater analytical results reported in the June 20, 2013 laboratory analytical report, no concentrations of any metals or volatile organic compounds were reported above the 2L GQS or the SWSL in the surface water sample collected.

Tables summarizing the groundwater analytical data for groundwater and surface water samples with detectable concentrations of metals and volatile organic constituents from the last 14 sampling events (seven years) have been included with this submission. A copy of the most recent laboratory analytical report and a table entitled; *Table of Values Which Exceed Established Standards And/Or Exceed Reporting Levels,* submitted to Currituck County by Environment 1 have also been included.

Arsenic and barium are naturally occurring metals that are both readily found in measurable quantities in both groundwater and soils in the coastal plain of North Carolina. Therefore, it is not clear if the concentrations reported in the laboratory report are a result of natural background levels of these naturally occurring metals.

A review of the last seven years of groundwater and surface water sampling data indicates that concentrations of all metals analyzed are generally stable and the concentrations that have or currently do exceed the 2L GQS are likely, or at least potentially, naturally occurring. Analytical data will continue to be monitored and any future irregularities or sharp increases in reported metal concentrations will be considered and addressed, as each case may warrant.

Benzene is typically associated with petroleum and/or petroleum based products. Concentrations of benzene that exceed the 2L GQS have been reported in the groundwater samples collected from Well# 5 and Well #6 over the last several years and within the last two years concentrations of benzene have risen slightly in Well #8 and now consistently exceed the 2L GQS while benzene concentrations reported in the groundwater samples collected from Well #5 have decreased slightly with no detection of benzene at or above the specified MDL as reported in the laboratory report of analysis for this sampling event.

Concentrations of chlorobenzene (2.60 µg/L) that do not exceed the SWSL were reported in the groundwater samples collected and analyzed from Well# 8. Chlorobenzene is commonly used in the manufacture of pesticides, dyes, and rubber and degrades only very slowly once dissolved in groundwater. Reported concentrations of chlorobenzene are relatively low and do not appear to pose a significant threat to human health or the environment.

There is continued migration of volatile organics occurring and reported contaminant concentrations for VOC's during this sampling event are generally lower and this may be a result of well volume due to recent and frequent recharge events. A thorough review of the data over the last seven years clearly shows that the contaminant levels in the groundwater samples is fairly constant with some minor fluctuation in VOC's indicating that there may be a source of VOC contamination in the landfill. However, the concentrations are apparently stable and there does not appear to be any immediate threat to human health or the environment as a result.

A Shallow Water Table Surface Map that has been generated using the reported depth to water measurements (performed by Environment 1) has been included. In general and based on the latest data, groundwater at the site is moving toward the southeast.

The next scheduled sampling event at the Currituck County Landfill is in June of 2014.

Please do not hesitate to contact the undersigned at 252.261.3300 if you have any questions or require any additional information in this matter.

Sincerely,

Quible & Associates, P.C.

Warren Eadus, P.G.

enc As stated
pdf copy of all documentation

cc Brenda McQueen
file

PROJECT	07014.1
DRAWN BY	CADD
CHECKED BY	WDE
DATE	2/19/13

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QUIBLE & ASSOCIATES, P.C.

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SHALLOW WATER TABLE SURFACE MAP-12/18/13

CURRITUCK COUNTY
MSW LANDFILL 27-03

MAPLE TOWNSHIP — CURRITUCK

NORTH CAROLINA

0 — 300 — 600

GRAPHIC SCALE IN FEET 1"=300

Quible & Associates, P.C. SINCE 1959
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E-Mail: admin@quible.com

Summary of Groundwater and Surface Water Analytical Data-Volatile Organics
Currituck County Landfill #27-24

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Benzene	6/27/2007	<0.16	0.8	<0.16	<1.0	**1.8**	0.8	<0.16	<0.16	<0.16	1.0	1.0
	12/6/2007	<0.16	0.4	<0.16	<0.16	**1.6**	0.7	<0.16	0.9	<0.16		
	6/27/2008	<0.16	0.5	<0.16	<0.16	**1.5**	0.7	<0.16	0.8	<0.16		
	12/10/2008	<0.16	0.6	<0.16	<0.16	**1.4**	0.5	<0.16	0.7	<0.16		
	6/16/2009	<0.16	0.7	<0.16	<0.16	**1.6**	0.6	<0.16	0.7	<0.16		
	12/7/2009	<0.24	<0.24	<0.24	<0.24	**1.1**	**1.3**	<0.24	0.8	<0.24		
	6/14/2010	<0.24	0.4	<0.24	<0.24	0.9	**1.8**	<0.24	0.9	<0.24		
	12/21/2010	<0.24	<0.24	<0.24	<0.24	<0.24	0.6	<0.24	**1.4**	<0.24		
	6/9/2011	<0.24	<0.24	<0.24	<0.24	0.6	**1.6**	<0.24	**1.2**	<0.24		
	12/8/2011	<0.24	<0.24	<0.24	<0.24	0.5	**2.0**	<0.24	**1.9**	<0.24		
	6/4/2012	<0.24	<0.24	<0.24	<0.24	<0.24	**2.10**	<0.24	**1.20**	<0.24		
	12/13/2012	<0.24	<0.24	<0.24	<0.24	0.90	**1.70**	<0.24	**1.00**	<0.24		
	6/20/2013	<0.24	<0.24	<0.24	<0.24	0.4	**1.70**	<0.24	**1.40**	<0.24		
	12/18/2013	<0.24	<0.24	<0.24	<0.24	<0.24	**1.70**	<0.24	**1.20**	<0.24		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
2-butanone	6/27/2007	1.5	1.4	2.2	2.1	2.1	1.8	5.3	2.1	2.8	4,000	2L GQS
	12/6/2007	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85		
	6/27/2008	1.5	2.3	1.5	1.6	4.4	1.4	2.2	2.6	2		
	12/10/2008	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85	<0.85		
	6/16/2009	6.9	5.4	5.8	6.6	7.9	2.6	3.6	5	10.6		
	12/7/2009	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21		
	6/14/2010	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21		
	12/21/2010	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21		
	6/9/2011	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	2.4		
	12/8/2011	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21		
	6/4/2012	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21		
	12/13/2012	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21		
	6/20/2013	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21		
	12/18/2013	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21	<2.21		

Summary of Groundwater and Surface Water Analytical Data-Volatile Organics
Currituck County Landfill #27-24

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Chlorobenzene	6/27/2007	<0.13	**34.9**	<0.13	<0.13	1	<0.13	<0.13	<0.13	<0.13	50	3.0
	12/6/2007	<0.13	**10.5**	<0.13	<0.13	1.4	0.2	<0.13	0.9	<0.13		
	6/27/2008	<0.13	**6**	<0.13	<0.13	1.3	<0.13	<0.13	1	<0.13		
	12/10/2008	<0.13	**5.7**	<0.13	<0.13	1	<0.13	<0.13	1.4	<0.13		
	6/16/2009	<0.13	**5.3**	<0.13	<0.13	1.7	<0.13	0.3	0.8	<0.13		
	12/7/2009	<0.30	1.2	<0.30	<0.30	1.1	<0.30	<0.30	0.8	<0.30		
	6/14/2010	<0.30	**7.8**	<0.30	<0.30	0.6	<0.30	<0.30	1.2	<0.30		
	12/21/2010	<0.30	2.8	<0.30	<0.30	0.4	<0.30	<0.30	**3.4**	<0.30		
	6/9/2011	<0.30	**5**	<0.30	<0.30	0.6	<0.30	<0.30	**3.7**	<0.30		
	12/8/2011	<0.30	**4.2**	<0.30	<0.30	<0.30	0.6	0.3	**6.7**	<0.30		
	6/4/2012	<0.30	2.7	<0.30	<0.30	<0.30	0.4	<0.30	**3.4**	<0.30		
	12/13/2012	<0.30	1.2	<0.30	<0.30	0.70	0.40	0.50	**4.70**	<0.30		
	6/20/2013	<0.30	1.9	<0.30	<0.30	<0.30	0.5	0.4	**3.3**	<0.30		
	12/18/2013	<0.30	<0.30	<0.30	<0.30	<0.30	0.70	0.30	2.60	<0.30		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
1,4-dichlorobenzene	6/27/2007	<0.21	0.4	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	6	2L GQS
	12/6/2007	<0.21	0.3	<0.21	<0.21	<0.21	<0.21	<0.21	0.3	<0.21		
	6/27/2008	<0.21	0.3	<0.21	<0.21	<0.21	<0.21	<0.21	0.3	<0.21		
	12/10/2008	<0.21	0.3	<0.21	<0.21	<0.21	<0.21	<0.21	0.3	<0.21		
	6/16/2009	<0.21	0.4	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21		
	12/7/2009	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39		
	6/14/2010	<0.39	0.5	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39		
	12/21/2010	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.8	<0.39		
	6/9/2011	<0.39	0.4	<0.39	<0.39	<0.39	<0.39	<0.39	0.7	<0.39		
	12/8/2011	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	1	<0.39		
	6/4/2012	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.6	<0.39		
	12/13/2012	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.70	<0.39		
	6/20/2013	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.6	<0.39		
	12/18/2013	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.60	<0.39		

Summary of Groundwater and Surface Water Analytical Data-Volatile Organics
Currituck County Landfill #27-24

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Vinyl chloride	6/27/2007	<0.34	<0.34	<0.34	<0.34	0.604	0.5	<0.34	<0.34	<0.34	0.03	1.0
	12/6/2007	<0.34	<0.34	<0.34	<0.34	0.9	<0.34	<0.34	<0.34	<0.34		
	6/27/2008	<0.34	<0.34	<0.34	<0.34	**1.1**	0.4	<0.34	<0.34	<0.34		
	12/10/2008	<0.34	<0.34	<0.34	<0.34	0.4	<0.34	<0.34	<0.34	<0.34		
	6/16/2009	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34		
	12/7/2009	<0.63	<0.63	<0.63	<0.63	<0.63	0.9	<0.63	<0.63	<0.63		
	6/14/2010	<0.77	<0.77	<0.77	<0.77	<0.77	**1.1**	<0.77	<0.77	<0.77		
	12/21/2010	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63		
	6/9/2011	<0.63	<0.63	<0.63	<0.63	<0.63	0.9	<0.63	<0.63	<0.63		
	12/8/2011	<0.63	<0.63	<0.63	<0.63	<0.63	0.9	<0.63	<0.63	<0.63		
	6/4/2012	<0.63	<0.63	<0.63	<0.63	<0.63	0.7	<0.63	<0.63	<0.63		
	12/13/2012	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63		
	6/20/2013	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63		
	12/18/2013	<0.63	<0.63	<0.63	<0.63	<0.63	0.80	<0.63	<0.63	<0.63		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Acetone	6/27/2007	<1.21	<1.21	1.7	1.4	1.7	<1.21	3.2	1.5	2.4	6000	100
	12/6/2007	<1.21	<1.21	<1.21	<1.21	1.3	<1.21	<1.21	<1.21	<1.21		
	6/27/2008	2.4	3.8	3	2.6	7.5	2.5	3.4	4.4	3.8		
	12/10/2008	<1.21	<1.21	<1.21	<1.21	<1.21	<1.21	<1.21	<1.21	<1.21		
	6/16/2009	3.2	3	3.6	3.4	4	1.5	2.2	3.1	5.6		
	12/7/2009	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/14/2010	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	12/21/2010	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/9/2011	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	11.2		
	12/8/2011	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/4/2012	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	12/13/2012	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/20/2013	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	12/18/2013	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		

Summary of Groundwater and Surface Water Analytical Data-Volatile Organics
Currituck County Landfill #27-24

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
1,1-dichloroethane	6/27/2007	<0.16	<0.16	<0.16	<0.16	0.2	<0.16	<0.16	<0.16	<0.16	6	2L GQS
	12/6/2007	<0.16	<0.16	<0.16	<0.16	0.4	<0.16	<0.16	<0.16	<0.16		
	6/27/2008	<0.16	<0.16	<0.16	<0.16	0.2	<0.16	<0.16	0.2	<0.16		
	12/10/2008	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	1.1	<0.16		
	6/16/2009	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	0.4	<0.16		
	12/7/2009	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
	6/14/2010	<0.20	<0.20	<0.20	<0.20	<0.20	0.4	<0.20	<0.20	<0.20		
	12/21/2010	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.4	<0.20		
	6/9/2011	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	<0.20	0.7	<0.20		
	12/8/2011	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.4	<0.20		
	6/4/2012	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	0.7	<0.27		
	12/13/2012	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	0.60	<0.20		
	6/20/2013	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17		
	12/18/2013	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	<0.20	0.50	<0.20		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Chloroethane	6/27/2007	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	3,000	10
	12/6/2007	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	0.4	<0.29		
	6/27/2008	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29		
	12/10/2008	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	3.8	<0.29		
	6/16/2009	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	0.8	<0.29		
	12/7/2009	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	1.1	<0.48		
	6/14/2010	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	0.8	<0.48		
	12/21/2010	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48		
	6/9/2011	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	0.9	<0.48		
	12/8/2011	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.70	<0.48		
	6/4/2012	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	1.2	<0.48		
	12/13/2012	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48		
	6/20/2013	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48		
	12/18/2013	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48		

Summary of Groundwater and Surface Water Analytical Data-Volatile Organics
Currituck County Landfill #27-24

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Cis-1,2 Dichloroethene	6/27/2007	<0.14	<0.14	<0.14	<0.14	0.2	0.8	<0.14	<0.14	<0.14	70	5
	12/6/2007	<0.14	<0.14	<0.14	<0.14	0.2	0.3	<0.14	<0.14	<0.14		
	6/27/2008	<0.14	<0.14	<0.14	<0.14	0.2	0.8	<0.14	<0.14	<0.14		
	12/10/2008	<0.14	<0.14	<0.14	<0.14	<0.14	0.2	<0.14	<0.14	<0.14		
	6/16/2009	<0.14	<0.14	<0.14	<0.14	<0.14	0.5	<0.14	<0.14	<0.14		
	12/7/2009	<0.25	<0.25	<0.25	<0.25	<0.25	0.8	<0.25	<0.25	<0.25		
	6/14/2010	<0.25	<0.25	<0.25	<0.25	<0.25	0.7	<0.25	<0.25	<0.25		
	12/21/2010	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25		
	6/9/2011	<0.25	<0.25	<0.25	<0.25	<0.25	0.7	<0.25	<0.25	<0.25		
	12/8/2011	<0.25	<0.25	<0.25	<0.25	<0.25	0.6	<0.25	<0.25	<0.25		
	6/4/2012	<0.25	<0.25	<0.25	<0.25	<0.25	0.4	<0.25	<0.25	<0.25		
	12/13/2012	<0.25	<0.25	<0.25	<0.25	<0.25	0.50	<0.25	<0.25	<0.25		
	6/20/2013	<0.25	<0.25	<0.25	<0.25	<0.25	0.5	<0.25	<0.25	<0.25		
	12/18/2013	<0.25	<0.25	<0.25	<0.25	<0.25	0.50	<0.25	<0.25	<0.25		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Toluene	12/8/2011	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	0.3	<0.23	600	1
	6/4/2012	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23		
	12/13/2012	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	0.3	<0.23		
	6/20/2013	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23		
	12/18/2013	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Xylenes	12/8/2011	<0.25	<0.25	<0.25	<0.25	<0.25	0.6	<0.25	<0.25	<0.25	500	5
	6/4/2012	<0.68	<0.68	<0.68	<0.68	<0.68	0.8	<0.68	<0.68	<0.68		
	12/13/2012	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68		
	6/20/2013	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68		
	12/18/2013	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68		

Notes:

1. Groundwater and surface water samples collected by Environment 1, Incorporated on behalf of Currituck County.
2. Laboratory Analytical Reports provided by Currituck County. All results reported in µg/L.
3. NC DENR Division of Water Quality Title 15A NCAC 2L .0202 Groundwater Quality Standards effective April 1, 2013.
4. NC DENR Division of Waste Management Solid Waste Section Limit.
5. Concentrations in bold type meet or exceed either of the current 2L GQS or SWSL.

Summary of Groundwater and Surface Water Analytical Data-Metals
Currituck County Landfill Permit #27-01

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Arsenic	6/27/2007	**61**	6.6	4.7	<0.47	3.8	**17**	1.1	0.8	0.6	10	10
	12/6/2007	**55**	5.9	5.5	1.7	5.7	**36**	3.1	2	<0.47		
	6/27/2008	**166**	5.1	5	0.7	7	**24**	2.8	24	0.9		
	12/10/2008	8.3	4.1	3.3	0.7	4	**18**	2.9	2.5	1		
	6/16/2009	**134**	4.2	4.4	0.7	3.9	**29**	4.1	1.6	0.6		
	12/7/2009	**41**	3	4.2	0.2	1.4	**23**	7.4	2	<0.17		
	6/14/2010	**279**	4.3	**39**	0.5	2	**15**	4.7	2.1	0.8		
	12/21/2010	**32**	3.4	8	1.2	1.8	**21**	5.2	6.2	0.4		
	6/9/2011	**59**	4.4	8	0.39	1.1	**15**	3.8	2.5	0.85		
	12/8/2011	**14**	3.4	5.6	0.43	0.54	**13**	8	3.3	0.4		
	6/4/2012	**27**	5.5	4.3	0.2	0.38	**57**	9	2.1	0.74		
	12/13/2012	**73**	6.2	4.9	0.44	0.98	**67**	**11**	3.3	0.57		
	6/20/2013	**20**	5.1	4.3	0.08	0.55	**10**	4	3.3	0.73		
	12/18/2013	1.3	5.6	3.7	<0.05	0.17	**12**	1.9	2.8	0.46		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Barium	6/27/2007	38.2	**121**	8.6	43.5	**159**	26	26.9	51	15.3	700	100
	12/6/2007	30.3	96.3	8.4	65.3	**172**	35.8	23.7	**162**	18.3		
	6/27/2008	52.3	**100**	9.2	48.4	**184**	29	20.8	**165**	14.7		
	12/10/2008	37.4	**125**	8.6	45.1	**116**	29.6	17.5	**226**	8		
	6/16/2009	48.4	**116**	10.5	42.8	**117**	26.4	32.9	**359**	7		
	12/7/2009	60.3	73.6	11.3	34.4	58.7	22.8	17	**394**	15.7		
	6/14/2010	52.6	**135**	9.6	42.6	98.5	28.7	30.7	**286**	37		
	12/21/2010	45.1	**100**	8.1	57.7	63.5	22.8	24.2	**333**	12.9		
	6/9/2011	50.6	**109**	10	43.8	86.8	24.6	18.7	**493**	15.3		
	12/8/2011	45	77.3	7	71.6	46.3	23.1	20.1	**228**	13.4		
	6/4/2012	40.1	76.5	8.5	31.5	16.9	22.6	16.7	**444**	113		
	12/13/2012	48.4	45.3	8.7	37.9	46.1	22.3	24.8	**213**	11.2		
	6/20/2013	36.1	45.2	9.2	42.3	38.4	21.1	23.1	**335**	9		
	12/18/2013	36	34.5	9.1	34.4	6.1	22.7	21.2	**226**	11.9		

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Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Cadmium	6/27/2007	0.3	0.2	<0.06	0.9	<0.06	<0.06	0.1	0.8	0.7	2.0	1.0
	12/6/2007	0.1	0.2	0.1	1.2	0.1	0.2	0.2	0.8	<0.06		
	6/27/2008	0.2	0.2	0.1	0.3	0.1	<0.04	0.1	0.4	0.1		
	12/10/2008	0.3	0.2	<0.04	0.2	<0.04	0.1	0.4	0.3	0.1		
	6/16/2009	0.4	0.1	0.2	0.3	<0.04	0.1	0.5	0.6	0.1		
	12/7/2009	0.3	0.2	0.1	0.2	<0.04	<0.04	0.1	0.6	<0.04		
	6/14/2010	0.2	0.1	0.1	0.4	<0.02	0.5	0.2	0.3	0.1		
	12/21/2010	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.8	0.1		
	6/9/2011	**1**	0.18	0.52	0.2	0.06	0.06	0.15	0.23	0.06		
	12/8/2011	0.06	0.19	0.07	0.19	0.22	<0.02	0.06	0.18	<0.02		
	6/4/2012	0.08	0.33	0.16	0.13	0.04	0.11	0.06	0.67	0.03		
	12/13/2012	0.13	0.11	0.12	0.15	0.03	<0.03	0.11	0.41	<0.03		
	6/20/2013	0.14	0.06	0.05	0.14	0.08	<0.05	0.08	0.26	0.23		
	12/18/2013	0.06	0.27	<0.05	0.07	<0.05	<0.05	0.09	0.11	<0.05		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Total Chromium	6/27/2007	1.9	1.1	0.5	1.5	4.1	0.4	0.9	1.4	0.5	10	10
	12/6/2007	1	0.3	<0.24	1.5	4.3	<0.24	0.4	1.7	<0.24		
	6/27/2008	1.7	0.5	<0.11	0.8	4.1	<0.11	0.2	1.6	<0.11		
	12/10/2008	<0.11	1.3	<0.11	0.7	4.2	<0.11	<0.11	1.8	<0.11		
	6/16/2009	2.5	0.7	<0.10	0.3	3.7	<0.10	0.4	2.2	<0.10		
	12/7/2009	0.3	0.8	<0.10	0.3	2.4	<0.10	<0.10	1.1	<0.10		
	6/14/2010	3.4	0.2	0.7	0.6	2.7	<0.03	0.4	1.3	<0.03		
	12/21/2010	0.8	1.9	0.3	0.7	2.8	0.2	0.8	3.5	0.1		
	6/9/2011	1.2	0.5	0.24	0.55	2.5	<0.04	0.72	2.2	0.1		
	12/8/2011	0.25	0.74	<0.04	0.36	1.9	<0.04	0.59	3.1	0.6		
	6/4/2012	1.2	1.1	0.25	0.40	1.3	0.24	0.66	2.4	0.42		
	12/13/2013	1.50	0.92	<0.18	0.27	2.0	<0.18	0.94	2.7	0.49		
	6/20/2013	0.29	0.54	<0.04	<0.04	1.1	<0.04	0.2	2.2	<0.04		
	12/18/2013	0.32	0.92	0.14	0.09	1.3	<0.04	0.25	2.4	0.5		

Summary of Groundwater and Surface Water Analytical Data-Metals

Currituck County Landfill Permit #27-01

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Lead	6/27/2007	1.4	0.4	<0.07	1.4	<0.07	<0.07	<0.07	1.2	<0.07	15	10
	12/6/2007	1.1	2.8	0.3	2.2	0.3	0.2	0.2	1.3	0.3		
	6/27/2008	2.8	0.6	0.2	1.8	0.1	0.1	0.1	0.6	0.1		
	12/10/2008	0.4	0.7	0.1	3.3	0.1	<0.04	0.5	0.2	0.1		
	6/16/2009	5	0.1	0.1	1.1	0.1	0.1	0.1	0.5	0.1		
	12/7/2009	1.1	0.9	0.3	2	0.2	<0.04	0.1	0.7	0.1		
	6/14/2010	5.6	0.1	0.3	1.5	<0.01	<0.01	0.1	0.1	0.2		
	12/21/2010	1	0.9	0.2	2	0.3	0.1	0.2	1.4	0.1		
	6/9/2011	1.3	0.21	0.25	1.4	0.11	0.06	0.12	0.26	0.18		
	12/8/2011	0.4	0.32	0.21	0.97	0.21	0.08	0.18	0.16	0.47		
	6/4/2012	0.81	0.73	0.44	1.1	0.33	0.20	0.16	0.72	0.43		
	12/13/2013	2.5	0.39	0.37	0.73	0.10	0.10	0.15	0.35	0.83		
	6/20/2013	0.44	0.92	0.05	0.42	0.09	<0.02	0.06	0.1	0.29		
	12/18/2013	0.11	0.67	0.06	0.24	0.3	0.1	0.35	0.08	0.07		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Mercury	6/27/2007	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	<0.04	1.0	0.2
	12/6/2007	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		
	6/27/2008	0.05	0.02	0.04	0.01	<0.01	0.03	<0.01	0.04	0.01		
	12/10/2008	0.05	0.04	0.04	0.04	0.03	<0.01	0.02	<0.01	<0.01		
	6/16/2009	<0.03	<0.03	0.07	<0.03	<0.03	0.07	<0.03	<0.03	<0.03		
	12/7/2009	0.04	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		
	6/14/2010	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08		
	12/21/2010	<0.08	<0.08	<0.08	<0.08	<0.08	0.17	<0.08	<0.08	<0.08		
	6/9/2011	**0.2**	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05		
	12/8/2011	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	6/4/2012	<0.02	0.08	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
	12/13/2013	<0.02	<0.02	<0.02	<0.02	0.02	0.05	<0.02	<0.02	<0.02		
	6/20/2013	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01		
	12/18/2013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		

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Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Selenium	6/27/2007	<0.35	1.7	0.5	0.5	5	0.6	1.1	0.6	<0.35	20	10
	12/6/2007	0.4	3.7	0.6	4.8	**11**	0.9	4	3.6	<0.35		
	6/27/2008	1.7	5.3	1	0.6	**18**	2.5	2.4	5.2	0.5		
	12/10/2008	0.2	2.9	0.7	0.5	7.4	0.6	4.4	3.8	0.3		
	6/16/2009	1.2	3.6	0.9	0.4	8.1	1.6	3.2	3.4	0.2		
	12/7/2009	<0.12	2.6	0.7	0.2	3.5	1.5	0.9	4.3	<0.12		
	6/14/2010	1.5	2	1.5	<0.32	2.2	1.5	0.9	3.2	0.5		
	12/21/2010	<0.32	1.6	0.8	2.2	2.8	1.1	2.3	2.9	<0.32		
	6/9/2011	0.38	1.5	0.55	0.3	1.5	1.3	0.71	4.9	0.28		
	12/8/2011	<0.20	0.94	<0.20	0.56	0.63	0.68	0.88	6.5	<0.20		
	6/4/2012	0.45	1.6	0.54	<0.17	0.52	1.1	0.60	3.7	0.45		
	12/13/2013	0.28	0.98	0.60	0.34	1.6	1.5	1.8	5.7	0.28		
	6/20/2013	0.29	2	0.67	0.13	0.88	1.4	1.90	6.6	0.25		
	12/18/2013	<0.06	1.2	1	<0.06	<0.06	2	0.55	7.1	0.72		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS[2]	SWSL[3]
Silver	6/27/2007	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	20	10
	12/6/2007	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52		
	6/27/2008	0.1	<0.04	0.1	<0.04	0.1	<0.04	0.1	0.1	<0.04		
	12/10/2008	<0.04	0.8	<0.04	<0.04	0.1	<0.04	0.1	0.1	0.1		
	6/16/2009	<0.04	<0.04	0.1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		
	12/7/2009	0.1	0.1	0.1	<0.04	0.1	<0.04	<0.04	<0.04	0.1		
	6/14/2010	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1		
	12/21/2010	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		
	6/9/2011	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04		
	12/8/2011	<0.02	0.04	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02		
	6/4/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
	12/13/2013	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
	6/20/2013	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03		
	12/18/2013	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.09		

Notes:

1. Groundwater and surface water samples collected by Environment 1, Incorporated on behalf of Currituck County.
2. Laboratory Analytical Reports provided by Currituck County. All results reported in µg/L.
3. NC DENR Division of Water Quality Title 15A NCAC 2L .0202 Groundwater Quality Standards effective April 1, 2013.
4. NC DENR Division of Waste Management Solid Waste Section Limit.
5. Concentrations in bold type meet or exceed either of the current 2L GQS or SWSL.

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#: 6028

CURRITUCK COUNTY LANDFILL
PUBLIC WORKS DEPARTMENT
153 COURTHOUSE RD SUITE 302
CURRITUCK ,NC 27929

DATE COLLECTED: 12/18/13
DATE REPORTED : 01/21/14

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #1	Well #2	Well #3	Well #4	Well #5	Analysis Date	Analyst	Method Code
PH (field measurement), Units			4.5	6.3	5.9	5.2	5.8	12/18/13	BF	4500HB-00
Arsenic, ug/l	0.05	10.0	1.3 J	5.6 J	3.7 J	--- U	0.17 J	12/26/13	LFJ	EPA200.8
Barium, ug/l	0.06	100.0	36.0 J	34.5 J	9.1 J	34.4 J	6.1 J	12/26/13	LFJ	EPA200.8
Cadmium, ug/l	0.05	1.0	0.06 J	0.27 J	--- U	0.07 J	--- U	12/26/13	LFJ'	EPA200.8
Total Chromium, ug/l	0.04	10.0	0.32 J	0.92 J	0.14 J	0.09 J	1.3 J	12/26/13	LFJ	EPA200.8
Lead, ug/l	0.02	10.0	0.11 J	0.67 J	0.06 J	0.24 J	0.30 J	12/26/13	LFJ	EPA200.8
Mercury, ug/l	0.01	0.20	--- U	--- U	--- U	--- U	--- U	01/03/14	ADD	245.1 R3-94
Selenium, ug/l	0.06	10.0	--- U	1.2 J	1.0 J	--- U	--- U	12/26/13	LFJ	EPA200.8
Silver, ug/l	0.03	10.0	--- U	--- U	--- U	--- U	--- U	12/26/13	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	117	500	279	163	101	12/18/13	BF	2510B-97
Temperature, °C			14	13	15	15	16	12/18/13	TRB	2550B-00
Static Water Level, feet			3.76	2.59	4.15	7.63	6.86	12/18/13	BF	
Well Depth, feet			21.15	18.63	21.34	23.60	20.34	12/18/13	BF	

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
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ID#: 6028

CURRITUCK COUNTY LANDFILL
PUBLIC WORKS DEPARTMENT
153 COURTHOUSE RD SUITE 302
CURRITUCK ,NC 27929

DATE COLLECTED: 12/18/13
DATE REPORTED : 01/21/14

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #6	Well #7	Well #8	Pond	Analysis Date	Analyst	Method Code
PH (field measurement), Units			5.4	6.1	6.5	6.4	12/18/13	BF	4500HB-00
Arsenic, ug/l	0.05	10.0	12	1.9 J	2.8 J		12/26/13	LFJ	EPA200.8
Arsenic, ug/l	0.05	10.0				0.46 J	01/09/14	LFJ	EPA200.8
Barium, ug/l	0.06	100.0	22.7 J	21.2 J	226		12/26/13	LFJ	EPA200.8
Barium, ug/l	0.06	100.0				11.9 J	01/09/14	LFJ	EPA200.8
Cadmium, ug/l	0.05	1.0	--- U	0.09 J	0.11 J		12/26/13	LFJ'	EPA200.8
Cadmium, ug/l	0.05	1.0				--- U	01/09/14	LFJ	EPA200.8
Total Chromium, ug/l	0.04	10.0	--- U	0.25 J	2.4 J		12/26/13	LFJ	EPA200.8
Total Chromium, ug/l	0.04	10.0				0.50 J	01/09/14	LFJ	EPA200.8
Lead, ug/l	0.02	10.0	0.10 J	0.35 J	0.08 J		12/26/13	LFJ	EPA200.8
Lead, ug/l	0.02	10.0				0.07 J	01/09/14	LFJ	EPA200.8
Mercury, ug/l	0.01	0.20	--- U	--- U	--- U	--- U	01/03/14	ADD	245.1 R3-94
Selenium, ug/l	0.06	10.0	2.0 J	0.55 J	7.1 J		12/26/13	LFJ	EPA200.8
Selenium, ug/l	0.06	10.0				0.72 J	01/09/14	LFJ	EPA200.8
Silver, ug/l	0.03	10.0	--- U	--- U	--- U		12/26/13	LFJ	EPA200.8
Silver, ug/l	0.03	10.0				0.09 J	01/10/14	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	246	526	2290	136	12/18/13	BF	2510B-97
Temperature, °C			15	16	14	9	12/18/13	TRB	2550B-00
Static Water Level, feet			4.10	5.31	3.39		12/18/13	BF	
Well Depth, feet			20.92	20.40	20.88		12/18/13	BF	

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: CURRITUCK COUNTY LANDFILL
PUBLIC WORKS DEPARTMENT
153 COURTHOUSE RD SUITE 302
CURRITUCK, NC 27929

CLIENT ID: 6028

ANALYST: MAO
DATE COLLECTED: 12/18/13
DATE REPORTED: 01/21/14

Page: 1

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	12/20/13 Well #1	12/20/13 Well #2	12/20/13 Well #3	12/27/13 Well #4	12/27/13 Well #5
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	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

CLIENT: CURRITUCK COUNTY LANDFILL
PUBLIC WORKS DEPARTMENT
153 COURTHOUSE RD SUITE 302
CURRITUCK, NC 27929

CLIENT ID: 6028

ANALYST: MAO
DATE COLLECTED: 12/18/13
DATE REPORTED: 01/21/14

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	12/27/13 Well #6	12/27/13 Well #7	12/27/13 Well #8	12/27/13 Pond
1. Chloromethane	0.77	1.0	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	0.80 J	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	0.20 J	--- U	0.50 J	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	0.50 J	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	1.70	--- U	1.20	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	0.70 J	--- U	2.60 J	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	0.60 J	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U	--- U

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

CHAIN OF CUSTODY RECORD

6028 Week: 52

CURRITUCK COUNTY LANDFILL
PUBLIC WORKS DEPARTMENT
153 COURTHOUSE RD SUITE 302
CURRITUCK NC 27929

(252) 232-2769

					Field pH	Metals	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2
						12				12 12	12	
					P	P	P	P		G	G	G
					A	A	A	A		E	E	E
Well #1	12-18-13	1050	14	5	G	G	G	G	G	G	G	G
Well #2	12-18-13	1035	13	4	G	G	G	G	G	G	G	
Well #3	12-18-13	1105	15	4	G	G	G	G	G	G	G	
Well #4	12-18-13	0955	15	4	G	G	G	G	G	G	G	
Well #5	12-18-13	0935	16	4	G	G	G	G	G	G	G	
Well #6	12-18-13	1125	15	4	G	G	G	G	G	G	G	
Well #7	12-18-13	1135	16	4	G	G	G	G	G	G	G	
Well #8	12-18-13	1010	14	4	G	G	G	G	G	G	G	
Pond	12-18-13	1140	9	4	G	G	G	G		G	G	

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE P G

CHEMICAL PRESERVATION

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

CLASSIFICATION:

- [ ] SURFACE WATER (NPDES)
- [ ] DRINKING WATER
- [ ] DWQ/GW
- [X] SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
Y N

SAMPLES COLLECTED BY: (Please Print)
Bobby / Tom

SAMPLES RECEIVED IN LAB AT 04 °C

RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby for	12-18-13 1425	B [illegible]	12/18/13 2:55

COMMENTS

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

Sampler must place a "C" for composite sample or a "G" for

No 260080

Table of Values Which Exceed Established Standards
And/Or Exceed Reporting Levels

Facility Name: CURRITUCK COUNTY LANDFILL Permit #: 2701 Lab ID# 6028

Location	Collection Date	Exceeds Std	Parameter	CAS #	Result, ug/l	NC 2L STD **	NC GWP STD **	NC 2B SWS **
Well #6	12/18/2013	Y	Arsenic	7440-38-2	12	10		10
Well #6	12/18/2013	Y	Benzene	71-43-2	1.70	1		1.0
Well #8	12/18/2013		Barium	7440-39-3	226	700		100
Well #8	12/18/2013	Y	Benzene	71-43-2	1.20	1		1.0

** Note: NC 2L STD = NC 2L Ground Water Standard
NC GWP STD = NC Solid Waste Groundwater Protection Standard
NC 2B SWS = NC 2B Surface Water Standard