Dare County
Closed East Lake Landfill
Facility Permit No. 28-02
Semi-Annual Sampling Report
(August 2014 Sampling Event)

CDM Smith

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):

Consultant - CDM Smith Inc.

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

Name: Mathew F. Colone Phone: 919-787-5620

E-mail: colonemf@cdmsmith.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Dare County Closed East Lake Landfill	U.S. Highway 64 East Lake, NC 27953	28-02	.0500	August 19, 2014

Environmental Status: (Check all that apply)

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

Type of data submitted: (Check all that apply)

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

Mathew F. Colone — Facility Representative Name (Print)

Consultant — Title

(919) 787-5620 — (Area Code) Telephone Number

Signature — Date: 12/05/2014

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 1851 GEOLOGIST MATHEW F. COLONE

12/5/14

5400 Glenwood Ave, Suite 300, Raleigh, NC 27612

Facility Representative Address

F-0412

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

CDM Smith
5400 Glenwood Avenue, Suite 300
Raleigh, North Carolina 27612
tel: 919 787-5620
fax: 919 781-5730

December 5, 2014

Ms. Jaclynne Drummond
North Carolina Department of Environment and
Natural Resources
Division of Waste Management
Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Subject: August 2014 Semi-Annual Groundwater Sampling Report
Closed East Lake Landfill, Dare County, North Carolina
Facility Permit No. 28-02

Dear Ms. Drummond:

CDM Smith Inc. (CDM Smith), on behalf of Dare County, is submitting an electronic copy of the August 2014 semi-annual sampling event report. This letter report presents the results of the most recent semi-annual sampling event that was completed at the Closed East Lake Landfill and constitutes the first semi-annual sampling event for 2014. The groundwater monitoring network consists of 10 wells (i.e. Well #1s, -1d, -2s, -2d, -3s, -3d, -4s, -4d, -5s, and -5d) and a downstream surface water sample location. Additional samples were collected from Well #6s, -6d, and -7s during the August 2014 sampling event to monitor the horizontal and vertical extent of benzene in groundwater. Field activities and sampling results for all wells and the surface water sample are discussed below.

Field Activities

Groundwater and surface water samples from the Closed East Lake Landfill were collected on August 19, 2014, by Environment One, Inc. (Environment One). Monitoring wells and the surface water sample location are shown on **Figure 1**. Groundwater elevations were measured at each well prior to sampling using an electronic water level indicator with an accuracy of 0.01 feet. These groundwater elevations as presented in **Table 1** were used to construct a potentiometric surface map for this sampling event. The potentiometric contours are presented on Figure 1.

Each well was measured in the field for pH, conductivity, temperature, turbidity, dissolved oxygen, and oxidation-reduction potential prior to sampling. The water quality parameters at the time samples were collected are presented in **Table 2**.

Sampling Results

Environment One located in Greenville, North Carolina analyzed the groundwater and surface water samples for the North Carolina Appendix I volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260B, metals by EPA Method 200.8, chloride by Standard Method (SM) 4500-CLB, and sulfate by SM 4500-SO4. Additional samples were collected from the shallow monitoring wells and analyzed for total suspended solids by SM 2540D. In accordance with Solid Waste Section guidelines, the analytical results were reported to the laboratory specific method detection limit (MDL) and are quantifiable at or below Solid Waste Section Limits (SWSLs). All monitoring wells and the surface water location for the Closed East Lake Landfill had detections of analytes above the MDL with a majority of the detections below SWSLs. These detections were qualified as estimated or "J" flags.

The following list presents the analytes detected above the MDL at each sample location. No "J" flag detections are provided. Underlined analytes exceeded the North Carolina 2L (NC 2L) Standard, Groundwater Protection Standard, or the North Carolina Surface Water Standards for Class C Waters. A complete summary of all detected and estimated concentrations for the August 2014 and previous sampling events are presented in **Table 3**. The historical data is not continuous but data available for select years is provided. A copy of the laboratory report is provided in **Appendix A**.

Well #1s

Inorganics:	Chloride
Metals:	<u>Arsenic</u>
Volatile Organic Compounds:	None Detected

Well #1d

Inorganics:	Chloride
Metals:	Cadmium, Copper, Zinc
Volatile Organic Compounds:	None Detected

Well #2s

Inorganics:	Chloride
Metals:	Barium, Cadmium, Zinc
Volatile Organic Compounds:	Chlorobenzene, 1,4-Dichlorobenzene

Well #2d

Inorganics:	<u>Chloride</u>
Metals:	Copper, Zinc
Volatile Organic Compounds:	None Detected

Well #3s

Inorganics:	Chloride
Metals:	Barium
Volatile Organic Compounds:	None Detected

Well #3d

Inorganics:	Chloride
Metals:	Copper, Zinc
Volatile Organic Compounds:	None Detected

Well #4s

Inorganics:	Chloride
Metals:	Barium, Copper, Zinc
Volatile Organic Compounds:	None Detected

Well #4d

Inorganics:	Chloride
Metals:	Copper, Lead, Zinc
Volatile Organic Compounds:	None Detected

Well #5s

Inorganics:	Chloride
Metals:	Arsenic, Barium, Copper, Zinc
Volatile Organic Compounds:	None Detected

Well #5d

Inorganics:	Chloride
Metals:	Copper, Zinc
Volatile Organic Compounds:	None Detected

Well #6s

Inorganics:	Chloride
Metals:	Arsenic, Barium
Volatile Organic Compounds:	Benzene, Chlorobenzene, 1,4-Dichlorobenzene

Well #6d

Inorganics:	Chloride
Metals:	Zinc
Volatile Organic Compounds:	None Detected

Well #7s

Inorganics:	Chloride
Metals:	None Detected
Volatile Organic Compounds:	None Detected

Downstream

Inorganics:	Chloride
Metals:	Cadmium, Zinc
Volatile Organic Compounds:	None Detected

"J" flags were not included in the previous list, but several locations had "J" flag detections that exceeded the standards. The "J" flag constituents above the standards along with their locations are listed below.

Cobalt:	Well #2s, -4s, -5s, and -6s
Vanadium:	Well #1s, -2s, -3s, -4s, -4d, -5s, -6s, and -7s

Toluene was detected in the trip blank and nickel was detected in the equipment blank. Both analytes were detected as estimated concentrations below their respective NC 2L Standard. A duplicate sample was collected from Well# 5d and had analytes detected at concentrations similar to the parent sample.

Volatile organic compounds (VOCs) detected in samples collected from Well #2s during the August 2014 sampling event were below the NC 2L Standards. Benzene was detected slightly above the NC 2L Standard in Well #2s from August 2007 (2.50 parts per billion (ppb)) to August 2013 (1.10 ppb). Benzene was not detected in samples collected from Well #2s during the February 2014 sampling event and was detected as an estimated concentration (0.70 ppb) in samples collected during the August 2014 sampling event. Carbon disulfide, chlorobenzene, and 1,4-dichlorobenzene have also been detected in Well #2s with a majority of the detections below the NC 2L Standards.

Benzene was detected slightly above the NC 2L Standard at 1.70 ppb in samples collected from Well #6s during the August 2014 sampling event. Chlorobenzene and 1,4-dichlorobenzene were also detected in Well #6s below their respective NC 2L Standard. No VOCs were detected in the deep monitoring well, Well #6d, or the shallow well, Well #7s. The historical VOC detections in Well #2s and Well #6s may result from an offsite source based on the direction of groundwater flow across the landfill (See Figure 1). CDM Smith will monitor future analytical results to evaluate VOC trends.

The semi-annual groundwater monitoring program will be continued by Dare County. The first semi-annual sampling event for 2015 is tentatively scheduled for February. If you have any questions or require further explanation, please do not hesitate to call me at (919) 787-5620.

Very truly yours,

Mathew F. Colone, P.G.
CDM Smith Inc.

Attachments

cc: Edward Mann, Dare County

Table 1
Groundwater Elevations
August 2014 Semi-Annual Sampling Event
Dare County C&D Landfill

		Date Measured	2/14/2012		8/16/2012		2/5/2013	
Facility Permit Number	Monitoring Well Code	Top of Casing Elevation (feet AMSL)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet AMSL)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet AMSL)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet AMSL)
28-02	Well #1s	7.07	6.54	0.53	6.24	0.83	6.01	1.06
28-02	Well #1d	7.15	6.40	0.75	6.36	0.79	6.21	0.94
28-02	Well #2s	5.80	5.05	0.75	5.35	0.45	4.63	1.17
28-02	Well #2d	5.49	4.66	0.83	4.67	0.82	4.62	0.87
28-02	Well #3s	4.28	3.76	0.52	3.88	0.40	3.81	0.47
28-02	Well #3d	3.85	3.18	0.67	3.25	0.60	3.00	0.85
28-02	Well #4s	4.20	5.25	-1.05	5.04	-0.84	3.00	1.20
28-02	Well #4d	4.22	3.55	0.67	3.55	0.67	3.37	0.85
28-02	Well #5s	9.88	8.73	1.15	8.75	1.13	8.72	1.16
28-02	Well #5d	10.33	9.60	0.73	9.63	0.70	9.41	0.92
28-02	Well #6s	7.38	5.87	1.51	Not Measured		5.75	1.63
28-02	Well #6d	6.88	6.51	0.37	Not Measured		6.43	0.45
28-02	Well #7s	5.08	3.98	1.10	3.98	1.10	4.00	1.08

Notes:

1. AMSL - Above Mean Sea Level
2. btoc - Below Top of Casing
3. Vertical Control - North American Vertical Datum of 1988
4. Horizontal Control - North American Datum of 1983
5. Well #6s and #6d were inaccessible during the August 2012 sampling event.

Table 1
Groundwater Elevations
August 2014 Semi-Annual Sampling Event
Dare County C&D Landfill

		Date Measured	8/20/2013		2/26/2014		8/19/2014	
Facility Permit Number	Monitoring Well Code	Top of Casing Elevation (feet AMSL)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet AMSL)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet AMSL)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet AMSL)
28-02	Well #1s	7.07	6.04	1.03	6.40	0.67	5.94	1.13
28-02	Well #1d	7.15	6.24	0.91	6.39	0.76	6.18	0.97
28-02	Well #2s	5.80	5.02	0.78	4.74	1.06	4.93	0.87
28-02	Well #2d	5.49	4.70	0.79	4.66	0.83	4.52	0.97
28-02	Well #3s	4.28	3.55	0.73	4.32	-0.04	3.5	0.78
28-02	Well #3d	3.85	3.04	0.81	3.11	0.74	3.00	0.85
28-02	Well #4s	4.20	5.15	-0.95	5.04	-0.84	4.45	-0.25
28-02	Well #4d	4.22	3.42	0.80	3.54	0.68	3.21	1.01
28-02	Well #5s	9.88	9.02	0.86	8.86	1.02	8.81	1.07
28-02	Well #5d	10.33	9.68	0.65	9.54	0.79	9.55	0.78
28-02	Well #6s	7.38	5.90	1.48	5.70	1.68	5.76	1.62
28-02	Well #6d	6.88	6.50	0.38	6.50	0.38	6.41	0.47
28-02	Well #7s	5.08	3.85	1.23	3.80	1.28	3.90	1.18

Notes:

1. AMSL - Above Mean Sea Level
2. btoc - Below Top of Casing
3. Vertical Control - North American Vertical Datum of 1988
4. Horizontal Control - North American Datum of 1983
5. Well #6s and #6d were inaccessible during the August 2012 sampling event.

Table 2
Water Quality Field Parameters
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

	Sample Date:	8/15/2011				2/14/2012				8/16/2012			
Facility Permit Number	Monitoring Well Code	pH (S.U.)	Conductivity (uS/cm)	Temperature (degrees Celsius)	TSS (mg/L)	pH (S.U.)	Conductivity (uS/cm)	Temperature (degrees Celsius)	TSS (mg/L)	pH (S.U.)	Conductivity (uS/cm)	Temperature (degrees Celsius)	TSS (mg/L)
28-02	Well #1s	6.7	1,381	19	38	6.8	1,535	17	85	6.7	1,259	19	50
28-02	Well #1d	7.1	957	19	NA	7.1	1,005	18	NA	7.1	917	18	NA
28-02	Well #2s	6.4	1,300	22	51	6.5	1,700	18	134	6.4	1,306	21	55
28-02	Well #2d	6.7	1,407	21	NA	7.2	1,869	19	NA	6.8	1,383	20	NA
28-02	Well #3s	6.1	3,058	24	11	6.5	2,110	15	40	6.4	1,503	20	31
28-02	Well #3d	6.9	926	20	NA	7.2	1,004	17	NA	7.0	995	18	NA
28-02	Well #4s	6.8	1,125	22	141	6.9	1,355	15	328	6.8	1,131	20	137
28-02	Well #4d	6.9	857	20	NA	7.1	1,000	18	NA	6.9	881	19	NA
28-02	Well #5s	6.4	1,524	21	58	6.4	1,988	18	135	6.4	1,526	20	68
28-02	Well #5d	7.1	766	21	NA	7.2	860	18	NA	7.1	768	20	NA
28-02	Well #6s	NA	NA	NA	NA	6.6	1,577	18	48	NA	NA	NA	NA
28-02	Well #6d	NA	NA	NA	NA	7.0	1,644	19	NA	NA	NA	NA	NA
28-02	Well #7s	NA	NA	NA	NA	6.3	4,420	18	22	6.2	1,887	20	9.5
Surface Water Sample Location													
28-02	Downstream	6.4	6,040	29	NA	6.6	5,190	7	NA	6.6	1,709	24	NA

Notes:
1. mg/L - milligrams per liter
2. uS/cm- Microsiemens per centimeter
3. TSS - Total Suspended Solids
4. S.U. - Standard Units
5. NA - Not Analyzed
6. Well #6s and #6d were inaccessible during the August 2012 sampling event.

Table 2
Water Quality Field Parameters
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

	Sample Date:	2/5/2013				8/20/2013						
Facility Permit Number	Monitoring Well Code	pH (S.U.)	Conductivity (uS/cm)	Temperature (degrees Celsius)	TSS (mg/L)	pH (S.U.)	Conductivity (uS/cm)	Temperature (degrees Celsius)	Dissolved Oxygen (mg/l)	ORP (mV)	Turbidity (NTUs)	TSS (mg/L)
28-02	Well #1s	6.9	1,382	15	<1	6.6	1,693	19	0.60	-108.2	42	63
28-02	Well #1d	7.5	930	17	NA	6.6	987	17	1.53	86.6	5	NA
28-02	Well #2s	6.6	1,415	16	27	6.6	1,861	21	0.47	-86.5	48	83
28-02	Well #2d	6.9	1,532	18	NA	6.9	2,012	21	1.47	137	10	NA
28-02	Well #3s	7.6	995	16	18	6.7	1,966	22	1.85	-49.9	8	9
28-02	Well #3d	6.6	1,535	18	NA	7.4	1,181	22	4.02	125.6	12	NA
28-02	Well #4s	7.0	1,278	14	72	6.5	1,414	20	0.39	-61.3	106	110
28-02	Well #4d	7.3	969	16	NA	6.9	984	20	0.61	-65.2	9	NA
28-02	Well #5s	6.5	1,598	17	51	6.6	1,525	21	0.60	-36.5	54	76
28-02	Well #5d	7.7	794	17	NA	7.4	846	20	3.16	158.9	3	NA
28-02	Well #6s	6.8	1,395	16	46	7.2	1,654	20	0.45	-97.2	0	34
28-02	Well #6d	7.4	1,338	17	NA	7.2	1,696	21	5.45	144.5	0	NA
28-02	Well #7s	6.5	2,700	17	9.3	6.5	1,867	21	1.01	54	6	2.9
Surface Water Sample Location												
28-02	Downstream	6.5	3,790	7	NA	6.7	2,424	24	1.48	--	6.20	NA

Notes:

1. mg/L - milligrams per liter
2. uS/cm- Microsiemens per centimeter
3. TSS - Total Suspended Solids
4. S.U. - Standard Units
5. ORP - Oxidation-Reduction Potential
6. NTUs - Nephelometric Turbidity Units
7. mV - Millivolts
8. NA - Not Analyzed
9. Well #6s and #6d were inaccessible during the August 2012 sampling event.

Table 2
Water Quality Field Parameters
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

	Sample Date:	2/26/2014							8/19/2014						
Facility Permit Number	Monitoring Well Code	pH (S.U.)	Conductivity (uS/cm)	Temperature (degrees Celsius)	Dissolved Oxygen (mg/l)	ORP (mV)	Turbidity (NTUs)	TSS (mg/L)	pH (S.U.)	Conductivity (uS/cm)	Temperature (degrees Celsius)	Dissolved Oxygen (mg/l)	ORP (mV)	Turbidity (NTUs)	TSS (mg/L)
28-02	Well #1s	6.8	2,013	13	0.58	--	27	52	6.8	1,435	21	0.73	-90	48	87
28-02	Well #1d	7.4	952	14	2.82	--	11	NA	7.4	954	20	0.79	48	14	NA
28-02	Well #2s	6.7	1,899	12	0.73	--	92	77	6.5	1,617	25	1.68	-80	25	71
28-02	Well #2d	7.3	2,023	15	4.88	--	24	NA	6.8	1,775	23	1.68	16	23	NA
28-02	Well #3s	6.5	1,833	10	0.76	--	49	36	6.4	1,695	25	0.53	-51	19	34
28-02	Well #3d	7.4	1,102	12	4.53	--	22	NA	7.0	1,075	24	3.55	-13	46	NA
28-02	Well #4s	6.9	1,575	13	0.50	--	25	181	6.9	1,540	21	0.95	-75	110	96
28-02	Well #4d	7.3	987	13	0.54	--	37	NA	6.9	985	19	1.24	-42	15	NA
28-02	Well #5s	6.5	2,190	13	0.54	--	86	108	6.4	1,085	21	0.80	-61	80	135
28-02	Well #5d	7.4	850	16	2.49	--	8	NA	7.2	792	21	2.04	16	16	NA
28-02	Well #6s	6.8	1,760	13	0.62	--	80	74	6.6	1,452	25	0.64	-96	11	47
28-02	Well #6d	7.4	1,472	13	6.16	--	1	NA	6.9	1,546	25	3.97	5	9	NA
28-02	Well #7s	6.5	4,692	11	0.54	--	19	18	6.4	1,842	27	0.61	-26	12	7
Surface Water Sample Location															
28-02	Downstream	7.1	2,220	7	5.88	--	14.4	NA	6.7	536	30	3.52	--	13	NA

Notes:

1. mg/L - milligrams per liter
2. uS/cm- Microsiemens per centimeter
3. TSS - Total Suspended Solids
4. S.U. - Standard Units
5. ORP - Oxidation-Reduction Potential
6. NTUs - Nephelometric Turbidity Units
7. mV - Millivolts
8. NA - Not Analyzed
9. Well #6s and #6d were inaccessible during the August 2012 sampling event.
10. ORP was measured inaccurately during the February 2014 sampling event because of a malfunctioning probe.

Table 3a
Detected Groundwater Constituents - Metals, Volatile Organic Compounds, and Inorganics
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

			Metals																		Volatile Organic Compounds								Inorganics	
Facility Permit Number	Monitoring Well Code	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Acetone	Benzene	Carbon Disulfide	Chlorobenzene	Chloromethane	1,4-Dichlorobenzene	Methylene Chloride	Toluene	Chloride	Sulfate
North Carolina 2L or Groundwater Protection Standard			1*	10	700	4*	2	10	1*	1,000	300	15	50	1	100	20	20	0.28*	0.3*	1,000	6,000	1	700	50	3	6	5	600	250	250
Solid Waste Section Limit			6	10	100	1	1	10	10	10	300	10	50	0.2	50	10	10	5.5	25	10	100	1	100	3	1	1	1	1	NE	250
28-02	Well #1s	15-Feb-90			104					13	8,150		486	0.4						23									510	55
28-02	Well #1s	2-Feb-95		75							55,350		1,119																189	275
28-02	Well #1s	12-Jan-96		65											137														17	606
28-02	Well #1s	20-Aug-01		46																									9.5	261.4
28-02	Well #1s	12-Sep-02		43																									8	93.5
28-02	Well #1s	26-Mar-03		41																									6	213
28-02	Well #1s	2-Sep-04		46																									17	188
28-02	Well #1s	19-Feb-07		25																										
28-02	Well #1s	20-Aug-07		73																										
28-02	Well #1s	25-Feb-08		28																										
28-02	Well #1s	15-Aug-11		43	66.7J		0.18J	0.22J	0.76J	1.7J		0.18J			6.4J	1.5J		0.03J	2.8J	8.7J									130	96.9J
28-02	Well #1s	14-Feb-12	0.21J	51	68.2J	0.06J	0.29J	1.1J	0.9J	79		1.5J			8.5J	1.2J	6.9J	0.03J	2.6J	37									109	109J
28-02	Well #1s	16-Aug-12		51	69.4J		0.10J	0.49J	0.62J	15		0.34J			5.0J	1.7J			1.2J	16									108	99.4J
28-02	Well #1s	5-Feb-13		21	56.4J		0.04J	0.56J	0.47J	1.5J		0.16J			3.8J	1.8J			1.4J	3.1J									117	188J
28-02	Well #1s	20-Aug-13		52	78.4J	0.03J	0.09J	0.25J	0.60J	5.1J		1.3J			5.8J	2.2J	1.1J		1.6J	4.7J									145	224J
28-02	Well #1s	26-Feb-14	0.05J	30	79.6J		0.07J	0.50J	0.49J	1.4J		0.10J			4.3J	1.4J	0.18J		1.6J	3.2J									109	355
28-02	Well #1s	19-Aug-14		31	76.6J	0.09J	0.13J	0.66J	0.69J	9.3J		1.4J			5.8J	1.4J	1.0J		2.1J	9.6J									106	111J
28-02	Well #1d	2-Feb-95									1,864		1,961																78	14
28-02	Well #1d	12-Jan-96																											85	
28-02	Well #1d	20-Aug-01						78							325														67	5.3
28-02	Well #1d	12-Sep-02																											126	
28-02	Well #1d	26-Mar-03					2																						94	
28-02	Well #1d	2-Sep-04																											85	
28-02	Well #1d	19-Feb-07																												
28-02	Well #1d	20-Aug-07																												
28-02	Well #1d	25-Feb-08																												
28-02	Well #1d	15-Aug-11		0.41J	2.7J		0.50J		0.41J	9.2J		0.08J			71	0.33J			1.4J	284									97	11.2J
28-02	Well #1d	14-Feb-12		0.33J	2.9J		0.91J		0.39J	14		1.9J			57	0.72J	0.08J		0.42J	281									94	8.9J
28-02	Well #1d	16-Aug-12			3.2J		1		0.36J	13		0.62J			56	0.92J				297									85	15.1J
28-02	Well #1d	5-Feb-13	0.08J	0.20J	2.7J		0.76J		0.33J	9.2J		0.36J			6.6J	1.0J		0.12J	0.30J	258									95	20.2J
28-02	Well #1d	20-Aug-13	0.07J	0.25J	3J		1		0.21J	23		2.4J			31.1J	1.1J	0.21J		0.38J	423									97	13.7J
28-02	Well #1d	26-Feb-14	0.08J		3.2J		0.85J		0.04J	27		2.7J			24.1J	0.43J	0.30J		0.39J	460									94	13.0J
28-02	Well #1d	19-Aug-14		0.38J	3.7J		1		0.20J	29		3.1J			22.6J	0.62J	0.09J			410									97	

Table 3a
Detected Groundwater Constituents - Metals, Volatile Organic Compounds, and Inorganics
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

			Metals																		Volatile Organic Compounds								Inorganics	
Facility Permit Number	Monitoring Well Code	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Acetone	Benzene	Carbon Disulfide	Chlorobenzene	Chloromethane	1,4-Dichlorobenzene	Methylene Chloride	Toluene	Chloride	Sulfate
North Carolina 2L or Groundwater Protection Standard			1*	10	700	4*	2	10	1*	1,000	300	15	50	1	100	20	20	0.28*	0.3*	1,000	6,000	1	700	50	3	6	5	600	250	250
Solid Waste Section Limit			6	10	100	1	1	10	10	10	300	10	50	0.2	50	10	10	5.5	25	10	100	1	100	3	1	1	1	1	NE	250
28-02	Well #2s	15-Feb-90			305						47,300		10,400							15									65	150
28-02	Well #2s	2-Feb-95		15				22			80,900		623											47					59	35
28-02	Well #2s	12-Jan-96		18	574			21				10			291									52					43	
28-02	Well #2s	20-Aug-01																						56					27	6.5
28-02	Well #2s	12-Sep-02		14																				41.4		7.1			19	351.7
28-02	Well #2s	26-Mar-03																						32.6					25	178.0
28-02	Well #2s	2-Sep-04																		106				44		5.1			22	
28-02	Well #2s	19-Feb-07																		13				19.9		4.5				
28-02	Well #2s	20-Aug-07			126															46		2.50		24.60		3.20				
28-02	Well #2s	25-Feb-08			153															22		2.60		26.20		4.00				323.4
28-02	Well #2s	15-Aug-11		9J	114		0.16J	0.90J	2.3J	8.8J		1.4J			22.1J	0.81J		0.03J	4.1J	38		1.20		17.40		1.80			114	14.0J
28-02	Well #2s	14-Feb-12		7J	136		0.17J	1.1J	1.8J	5.7J		1J			6.3J	0.91J	0.43J		2.7J	25		1.90		23.60		2.50			52	
28-02	Well #2s	16-Aug-12		8J	134		0.19J	1.1J	2.3J	10		1.5J			10.4J	1.4J	0.25J	0.11J	2.2J	47		1.90		28.70		1.70			40	
28-02	Well #2s	5-Feb-13		1.1J	6.7J		0.06J	0.84J	0.29J	2.6J		0.20J			7.4J	3.8J			0.21J	66		1.30		18.70		2.80			427	50.7J
28-02	Well #2s	20-Aug-13	0.05J	10	134	0.04J	0.22J	0.85J	2.5J	5.9J		1.2J			13J	2.4J	0.47J		2.8J	35		1.10	0.80J	21.50		1.80			81	11J
28-02	Well #2s	26-Feb-14	0.34J	6.6J	131		0.14J	1.5J	2.0J	6.1J		1.1J			6.6J	1.4J	0.71J		2.5J	25									113	31.1J
28-02	Well #2s	19-Aug-14		5.5J	138	0.07J	1	0.77J	2.0J	5.1J		1.8J			8.2J	1.4J	0.69J		2.0J	22		0.70J		24.80		2.80			72	6.9J
28-02	Well #2d	2-Feb-95									4,886		881																461	50
28-02	Well #2d	12-Jan-96																											446	39.9
28-02	Well #2d	20-Aug-01						18							62														410	37.9
28-02	Well #2d	12-Sep-02																											520	37.3
28-02	Well #2d	26-Mar-03																											410	37.2
28-02	Well #2d	2-Sep-04																		56									385	37.2
28-02	Well #2d	19-Feb-07																		20										
28-02	Well #2d	20-Aug-07																		21										
28-02	Well #2d	25-Feb-08																		37										
28-02	Well #2d	15-Aug-11		0.85J	10.5J		0.07J	10	3.0J	15		3.8J			82	2.2J	0.27J		1.7J	485									430	35.4J
28-02	Well #2d	14-Feb-12		0.56J	8.4J		0.27J	24	1.3J	14		3.4J			62	2.6J	0.49J			357									405	45.4J
28-02	Well #2d	16-Aug-12	0.32J	0.44J	7.9J		0.11J	20	1.2J	12		3.8J			25.5J	2.7J	0.35J			279									414	36.6J
28-02	Well #2d	5-Feb-13	0.06J	3.2J	116		0.10J	0.27J	1.6J	1.3J		0.24J			6.3J	1.2J			1.2J	11									104	11.3J
28-02	Well #2d	20-Aug-13	0.07J	0.86J	7.1J		0.10J	8.5J	0.67J	16		5.4J			13.8J	4.6J	0.38J		0.20J	225									388	40.5J
28-02	Well #2d	26-Feb-14	0.82J		8.7J		2	27	0.65J	24		6.2J			15.7J	1.7J	0.66J		0.28J	275									388	40.3J
28-02	Well #2d	19-Aug-14		0.92J	9.6J		0.88J	6.8J	0.65J	22		4.0J			10.7J	3.4J	0.19J			217						0.30J			422	45.5J

Table 3a
Detected Groundwater Constituents - Metals, Volatile Organic Compounds, and Inorganics
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

			Metals																		Volatile Organic Compounds								Inorganics	
Facility Permit Number	Monitoring Well Code	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Acetone	Benzene	Carbon Disulfide	Chlorobenzene	Chloromethane	1,4-Dichlorobenzene	Methylene Chloride	Toluene	Chloride	Sulfate
North Carolina 2L or Groundwater Protection Standard			1*	10	700	4*	2	10	1*	1,000	300	15	50	1	100	20	20	0.28*	0.3*	1,000	6,000	1	700	50	3	6	5	600	250	250
Solid Waste Section Limit			6	10	100	1	1	10	10	10	300	10	50	0.2	50	10	10	5.5	25	10	100	1	100	3	1	1	1	1	NE	250
28-02	Well #3s	15-Feb-90			42						2,470		354																30	50
28-02	Well #3s	2-Feb-95		17				16			20,150		391																91	380
28-02	Well #3s	11-Jan-96																											248	250
28-02	Well #3s	20-Aug-01																											340	84.7
28-02	Well #3s	12-Sep-02																											242	262.7
28-02	Well #3s	26-Mar-03																											180	283.5
28-02	Well #3s	2-Sep-04																											82	72.0
28-02	Well #3s	19-Feb-07																												
28-02	Well #3s	20-Aug-07																												
28-02	Well #3s	25-Feb-08			151															15										
28-02	Well #3s	15-Aug-11		5.2J	370			0.61J	1.2J	6.0J		0.67J			2.3J	12	0.41J		2.3J	150									1,619	75.4J
28-02	Well #3s	14-Feb-12		1J	158	0.06J	0.15J	0.46J	0.47J	1.7J		0.46J			3.0J	2.9J	0.57J		1.8J	13									300	8.1J
28-02	Well #3s	16-Aug-12	0.06J	1.4J	128	0.07J	0.13J	0.57J	0.74J	2.6J		0.67J			4.0J	3.0J	0.68J		1.5J	43									291	15.3J
28-02	Well #3s	5-Feb-13	0.15J	1.4J	115		0.09J	0.32J	0.45J	0.91J		0.10J			4.1J	3.2J	0.11J		1.2J	3.2J									202	8.7J
28-02	Well #3s	20-Aug-13		2.6J	138	0.06J		0.50J	0.46J	3J		0.34J			5.2J	6.8J	0.34J	0.23J	1.2J	11									610	11.1J
28-02	Well #3s	26-Feb-14	0.06J	0.56J	130	0.04J	0.07J	0.56J	0.43J	1.7J		0.31J			3.5J	3.1J	2.5J		2.2J	7.0J									193	11.3J
28-02	Well #3s	19-Aug-14		1.0J	130	0.08J	0.07J	0.46J	0.69J	2.2J		0.52J			4.3J	4.1J	2.8J		1.6J	7.4J									208	
28-02	Well #3d	2-Feb-95									2,009		396																185	60
28-02	Well #3d	11-Jan-96																											171	56
28-02	Well #3d	20-Aug-01																											52	7.6
28-02	Well #3d	12-Sep-02																											5	8.1
28-02	Well #3d	26-Mar-03																											83	39.2
28-02	Well #3d	2-Sep-04																											128	51.3
28-02	Well #3d	19-Feb-07																												
28-02	Well #3d	20-Aug-07																												
28-02	Well #3d	25-Feb-08																												
28-02	Well #3d	15-Aug-11		0.82J	21.5J	0.09J	0.07J		0.13J	30		6.5J			0.50J	0.82J	0.07J		2.2J	183									99	35.1J
28-02	Well #3d	14-Feb-12			8.7J		0.16J		0.15J	27		3.8J			1.8J	0.66J	0.05J		0.69J	81									117	75J
28-02	Well #3d	16-Aug-12		0.17J	11.9J		0.05J		0.13J	35		5.0J			2.1J	0.90J			0.52J	74									121	64.7J
28-02	Well #3d	5-Feb-13	0.07J	0.74J	4.7J		0.09J		0.13J	25		4.2J			3.0J	1.4J		0.30J	0.25J	121									124	51.8J
28-02	Well #3d	20-Aug-13		0.63J	7.9J		0.10J		0.18J	40		9.8J			5.5J	1.7J	0.25J	0.08J	0.29J	152									137	73.2J
28-02	Well #3d	26-Feb-14	0.12J		6.7J		0.06J			64		9.1J			2.8J	0.50J	1.5J		0.65J	166									110	54.0J
28-02	Well #3d	19-Aug-14		0.19J	10.1J		0.18J		0.15J	41		9.9J			3.0J	0.92J	0.20J		0.22J	44									127	62.8J

Table 3a
Detected Groundwater Constituents - Metals, Volatile Organic Compounds, and Inorganics
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

			Metals																		Volatile Organic Compounds								Inorganics	
Facility Permit Number	Monitoring Well Code	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Acetone	Benzene	Carbon Disulfide	Chlorobenzene	Chloromethane	1,4-Dichlorobenzene	Methylene Chloride	Toluene	Chloride	Sulfate
North Carolina 2L or Groundwater Protection Standard			1*	10	700	4*	2	10	1*	1,000	300	15	50	1	100	20	20	0.28*	0.3*	1,000	6,000	1	700	50	3	6	5	600	250	250
Solid Waste Section Limit			6	10	100	1	1	10	10	10	300	10	50	0.2	50	10	10	5.5	25	10	100	1	100	3	1	1	1	1	NE	250
28-02	Well #4s	15-Feb-90			286						29,400		486	0.4						10									83	20
28-02	Well #4s	2-Feb-95		13							5,855		422																124	140
28-02	Well #4s	11-Jan-96																											760	32
28-02	Well #4s	20-Aug-01																		125									160	6.4
28-02	Well #4s	12-Sep-02																		58									50	
28-02	Well #4s	26-Mar-03																											144	5.1
28-02	Well #4s	2-Sep-04						12												74									128	
28-02	Well #4s	19-Feb-07																												
28-02	Well #4s	20-Aug-07																		50										
28-02	Well #4s	25-Feb-08																		21										
28-02	Well #4s	15-Aug-11		3.0J	86.5J	0.12J	0.09J	5.2J	3.7J	5.3J		3.0J			6.7J	1.1J	0.15J	0.03J	6.5J	87									120	12.1J
28-02	Well #4s	14-Feb-12		2.8J	154	0.19J	0.43J	8.2J	5.3J	9.5J		4.7J			12.4J	0.96J	0.41J		11.3J	115									124	6.4J
28-02	Well #4s	16-Aug-12		2.6J	79.3J	0.15J	0.10J	5.7J	3.4J	4.5J		2.7J			7.4J	1.0J	0.25J		6.0J	78									107	
28-02	Well #4s	5-Feb-13	0.03J	0.90J	124		0.21J	3.3J	0.78J	2.8J		0.56J			4.1J	1.9J			3.3J	17									140	18.6J
28-02	Well #4s	20-Aug-13	0.17J	2.7J	113	0.15J	0.14J	5.7J	3.8J	6.2J		2.5J			7.8J	2.3J	0.52J	0.05J	5.8J	65									177	19.6J
28-02	Well #4s	26-Feb-14	0.06J	1.6J	150	0.09J		5.0J	2.1J	6.3J		1.5J			4.4J	1.8J	0.08J		5.3J	44									202	12.4J
28-02	Well #4s	19-Aug-14	0.27J	3.5J	222	0.22J	0.98J	7.1J	6.1J	20		5.8J			12.7J	2.5J	2.2J		9.4J	236									228	11.2J
28-02	Well #4d	2-Feb-95									1,543		253																50	5
28-02	Well #4d	11-Jan-96																											92	8
28-02	Well #4d	20-Aug-01																											110	8.7
28-02	Well #4d	12-Sep-02																											122	
28-02	Well #4d	26-Mar-03																											154	
28-02	Well #4d	2-Sep-04																											86	
28-02	Well #4d	19-Feb-07																												
28-02	Well #4d	20-Aug-07																		13										
28-02	Well #4d	25-Feb-08																												
28-02	Well #4d	15-Aug-11		0.38J	3.7J				0.11J	6.3J		2.0J			0.49J	0.28J			1.7J	16									73	20.8J
28-02	Well #4d	14-Feb-12		0.17J	6.3J		0.4J	0.3J	0.22J	9.2J		1.8J			2.6J	0.31J			1.1J	42									71	13.7J
28-02	Well #4d	16-Aug-12			4.8J		0.08J		0.16J	12		2.5J			2.2J	0.59J	0.25J		0.59J	12									71	14.7J
28-02	Well #4d	5-Feb-13	0.05J	0.46J	5.2J		0.28J		0.14J	7.3J		0.99J			42.2J	0.98J			0.54J	100									94	13.7J
28-02	Well #4d	20-Aug-13		0.41J	5.3J	0.03J			0.18J	16		17			6.3J	0.84J	0.06J		0.52J	13									80	17.6J
28-02	Well #4d	26-Feb-14	0.04J		6.5J		0.15J			16		24			8.3J	0.48J	0.11J		1.2J	123									82	
28-02	Well #4d	19-Aug-14		0.40J	8.6J	0.04J	0.56J		0.22J	16		11			2.5J	0.78J			0.48J	10									95	17.0J

Table 3a
Detected Groundwater Constituents - Metals, Volatile Organic Compounds, and Inorganics
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

			Metals																		Volatile Organic Compounds								Inorganics	
Facility Permit Number	Monitoring Well Code	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Acetone	Benzene	Carbon Disulfide	Chlorobenzene	Chloromethane	1,4-Dichlorobenzene	Methylene Chloride	Toluene	Chloride	Sulfate
North Carolina 2L or Groundwater Protection Standard			1*	10	700	4*	2	10	1*	1,000	300	15	50	1	100	20	20	0.28*	0.3*	1,000	6,000	1	700	50	3	6	5	600	250	250
Solid Waste Section Limit			6	10	100	1	1	10	10	10	300	10	50	0.2	50	10	10	5.5	25	10	100	1	100	3	1	1	1	1	NE	250
28-02	Well #5s	15-Feb-90			419						32,200		10,400							20									720	50
28-02	Well #5s	2-Feb-95		14				12			49,600		2,267																351	290
28-02	Well #5s	11-Jan-96		10				12							67														378	250
28-02	Well #5s	20-Aug-01																											140	46.9
28-02	Well #5s	12-Sep-02																											128	47.6
28-02	Well #5s	26-Mar-03																											114	35.6
28-02	Well #5s	2-Sep-04																											95	
28-02	Well #5s	19-Feb-07																												
28-02	Well #5s	20-Aug-07			199															18										
28-02	Well #5s	25-Feb-08			159															12										
28-02	Well #5s	15-Aug-11		12	206	0.10J	0.15J	1.2J	1.7J	6.0J		1.4J			3.2J	1.9J	0.04J	0.10J	5.7J	20									73	
28-02	Well #5s	14-Feb-12		14	194	0.07J	0.21J	1.6J	1.7J	13		5.7J			6.7J	2.1J			5.4J	25									66	
28-02	Well #5s	16-Aug-12		14	212		0.10J	1.3J	1.7J	5.8J		2.2J			4.5J	2.4J			4.7J	14									66	
28-02	Well #5s	5-Feb-13	0.03J	11	214		0.14J	0.98J	1.6J	4.7J		1.4J			5.8J	2.7J		0.08J	3.8J	11				0.40J					82	
28-02	Well #5s	20-Aug-13	0.08J	18	245	0.08J	0.22J	1.7J	2.1J	16		3.6J			8.6J	2.9J	0.03J		6.3J	24				0.30J					65	10.7J
28-02	Well #5s	26-Feb-14	0.28J	15	206	0.14J	0.20J	2.7J	2.3J	24		7.9J			7.0J	2.0J	0.03J	0.07J	6.8J	27				0.40J					51	
28-02	Well #5s	19-Aug-14		20	240	0.10J	0.16J	1.9J	2.1J	16		3.9J			6.6J	3.0J			6.6J	25				0.30J					96	11.0J
28-02	Well #5d	2-Feb-95									1,895		238																65	8
28-02	Well #5d	11-Jan-96																											75	11
28-02	Well #5d	20-Aug-01																											70	7.3
28-02	Well #5d	12-Sep-02																											62	5.9
28-02	Well #5d	26-Mar-03																											56	
28-02	Well #5d	2-Sep-04																											56	
28-02	Well #5d	19-Feb-07																												
28-02	Well #5d	20-Aug-07																		10										
28-02	Well #5d	25-Feb-08																												
28-02	Well #5d	15-Aug-11		0.44J	3.5J		0.32J		0.15J	8.9J		2.8J			27.5J	0.26J	0.08J	0.04J	1.6J	1,715									56	17.6J
28-02	Well #5d	14-Feb-12	0.3J		4.9J		0.57J		0.17J	32		2.8J			26J		0.07J		0.62J	1,557									55	5.5J
28-02	Well #5d	16-Aug-12			4.1J		0.49J		0.13J	30		2.1J			19.6J	0.40J			0.26J	1,363									50	13.0J
28-02	Well #5d	5-Feb-13	0.06J	0.34J	3.6J		0.39J		0.10J	24		0.15J			18.1J	0.65J			0.40J	1,080									57	19.4J
28-02	Well #5d	20-Aug-13		0.30J	3.5J		0.24J		0.14J	37		1.8J			11.8J	0.67J	0.11J	0.18J	0.47J	693									75	
28-02	Well #5d	26-Feb-14	0.02J		4.4J		0.18J			59		3.0J			5.8J	0.31J	1.0J		1.00J	625									52	
28-02	Well #5d	19-Aug-14		0.27J	4.3J		0.31J		0.14J	32		2.3J			3.2J	0.22J	0.21J		0.22J	211									53	6.0J

Table 3a
Detected Groundwater Constituents - Metals, Volatile Organic Compounds, and Inorganics
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

			Metals																		Volatile Organic Compounds								Inorganics	
Facility Permit Number	Monitoring Well Code	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Acetone	Benzene	Carbon Disulfide	Chlorobenzene	Chloromethane	1,4-Dichlorobenzene	Methylene Chloride	Toluene	Chloride	Sulfate
North Carolina 2L or Groundwater Protection Standard			1*	10	700	4*	2	10	1*	1,000	300	15	50	1	100	20	20	0.28*	0.3*	1,000	6,000	1	700	50	3	6	5	600	250	250
Solid Waste Section Limit			6	10	100	1	1	10	10	10	300	10	50	0.2	50	10	10	5.5	25	10	100	1	100	3	1	1	1	1	NE	250
28-02	Well #6s	12-Jan-96						50	24			41			97				72	109									52	
28-02	Well #6s	14-Feb-12						0.39J		0.62J		0.06J			2.5J	0.8J			1.3J	2.8J		1.40		4.40		3.10			33	31.4J
28-02	Well #6s	5-Feb-13	0.06J	11	191		0.15J	0.40J	1.3J	0.37J					4.2J	1.2J			1.3J	2.4J		1.50		5.50		4.10			42	8.2J
28-02	Well #6s	20-Aug-13		5.9J	164		0.17J	0.20J	1.2J	0.45J		0.05J			5.4J	0.63J	0.03J		1.1J	2.5J		1.10		3.60		2.30			32	20.4J
28-02	Well #6s	26-Feb-14	0.11J	23	216	0.04J	0.11J	0.47J	1.3J	0.58J		0.16J			3.2J	0.63J			1.4J	3.7J		1.70		5.50		4.40			38	14.1J
28-02	Well #6s	19-Aug-14		26	248	0.04J	0.04J	0.26J	1.3J	0.29J					3.5J	0.84J			1.2J	1.3J		1.70		6.70		4.80			33	13.3J
28-02	Well #6d	12-Jan-96																											490	62.5
28-02	Well #6d	14-Feb-12						0.15J		0.5J		0.22J			1.5J	2.3J			0.86J	10									368	60.2J
28-02	Well #6d	5-Feb-13	0.02J	1.4J	6.6J		0.21J		0.19J	0.72J		0.17J			2.7J	3.8J			0.56J	8.6J									360	49.4J
28-02	Well #6d	20-Aug-13		1.3J	5J				0.18J	1J		0.03J			4.5J	3.7J			0.25J	3.8J									336	31.7J
28-02	Well #6d	26-Feb-14		0.50J	3.9J				0.13J	0.85J		0.03J			2.0J	1.9J			0.42J	37									298	27.3J
28-02	Well #6d	19-Aug-14	0.83J	1.1J	6.2J		0.11J		0.21J	0.81J					2.5J	3.0J				20									318	38.0J
28-02	Well #7s	12-Jan-96		12				22				10			84														35	294
28-02	Well #7s	14-Feb-12						0.72J		2.7J		0.25J			4.3J	8.1J			1.9J	6.9J									1,190	110J
28-02	Well #7s	16-Aug-12	0.08J	1.5J	62.4J			0.78J	0.99J	2.1J		0.14J			3.3J	4.4J			2.0J	11									567	11.4J
28-02	Well #7s	5-Feb-13	0.07J	2.6J	57.2J			0.49J	0.95J	3.0J					4.7J	6.6J			0.92J	4.9J									720	19.6J
28-02	Well #7s	20-Aug-13		1.4J	37.1J			0.24J	0.79J	1.6J		0.10J			4J	2.9J			1.1J	5J									353	10.7J
28-02	Well #7s	26-Feb-14	0.04J	2.3J	90.5J	0.03J		0.39J	0.96J	3.4J		0.04J			6.1J	5.7J			1.3J	2.5J									980	429
28-02	Well #7s	19-Aug-14	0.24J	1.8J	52.3J	0.06J	0.10J	0.40J	0.89J	1.8J					4.0J	5.3J			0.78J	3.0J									388	
28-02	Well #7d	12-Jan-96		19	752	3		30	15						73					105									706	245

Notes:

1. Metal and volatile organic compound units are in micrograms per liter (parts per billion).
2. Inorganic units are in milligrams per liter (parts per million).
3. *-Groundwater Protection Standard
4. NE = Not Established
5. J - Indicates the analytical result is an estimated concentration between the method detection limit and the Solid Waste Section Reporting Limit
6. Well #6s and #6d were inaccessible during the August 2012 sampling event.

- Blank cell indicates the analyte was not detected
- Concentration exceeds the North Carolina 2L or Groundwater Protection Standard

Table 3b
Detected Surface Water Constituents - Metals, Volatile Organic Compounds, and Inorganics
August 2014 Semi-Annual Sampling Event
Dare County Closed East Lake Landfill

			Metals																		Volatile Organic Compounds							Inorganics	
Facility Permit Number	Surface Water Sample Code	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Acetone	Benzene	Chlorobenzene	Chloromethane	1,4-Dichlorobenzene	Methylene Chloride	Toluene	Chloride	Sulfate
North Carolina 2B, Action Level, or Human Health Standard			640*	10*	2,000*	6.5	2	50	4*	7**	1,000**	25	NS	0.012	88	5	0.06**	0.47*	NS	50**	2,000	51*	140	96*	100	590*	11	230**	NS
Solid Waste Section Limit			10	10	100	1	1	10	10	10	300	10	50	0.2	50	10	10	5.5	25	10	100	1	3	1	1	1	1	NE	250
28-02	Downstream	15-Feb-90			241					39	460		354							41								290	76
28-02	Downstream	2-Feb-95									1,327		92															2,059	350
28-02	Downstream	12-Jan-96																										451	204
28-02	Downstream	20-Aug-01						178							834													1,400	193.6
28-02	Downstream	12-Sep-02																										1,320	37.6
28-02	Downstream	26-Mar-03																										425	61.7
28-02	Downstream	2-Sep-04																										186	14
28-02	Downstream	19-Feb-07																											
28-02	Downstream	20-Aug-07														15													
28-02	Downstream	25-Feb-08														11													
28-02	Downstream	15-Aug-11		5.6J	37.7J				0.26J	8.1J		0.05J			0.04J	18			0.86J	4.4J								2,749	345
28-02	Downstream	14-Feb-12		2.6J	34.1J			0.26J	0.22J	3.9J		0.1J			1.6J					8.7J								1,450	149J
28-02	Downstream	16-Aug-12	0.10J	4.0J	33.6J	0.18J		5.2J	1.9J	6.2J		6.0J			4.2J	5.0J		0.24J	6.1J	52								523	29.7J
28-02	Downstream	5-Feb-13	0.03J	3.9J	22.8J			0.49J	0.23J	3.2J		0.26J			2.2J	12			0.64J	4.8J								1,160	131J
28-02	Downstream	20-Aug-13	0.12J	2.7J	22.9J	0.03J		1J	0.83J	2.4J		0.50J			1.8J	6.0J			0.81J	5.1J								575	
28-02	Downstream	26-Feb-14		1.6J	18.6J			1.6J	0.48J	2.8J		0.70J			1.7J	4.1J			1.2J	6.9J								545	24.1J
28-02	Downstream	19-Aug-14		4.5J	16.1J	0.07J	6	0.81J	2.8J	1.8J		1.1J			2.8J	0.69J			1.7J	16								38	10.2J

Notes:

1. Metal and volatile organic compound units are in micrograms per liter (parts per billion).
2. Inorganic units are in milligrams per liter (parts per million).
3. Standards obtained from section 15A NCAC 02B .0211 Fresh Surface Water Quality Standards for Class C Waters.
4. * - Human Health Standard
5. ** - Action Level Standard
6. NS = No Standard NE = Not Established
7. J - Indicates the analytical result is an estimated concentration between the method detection limit and the Solid Waste Section Reporting Limit.

- Concentration exceeds the North Carolina 2B, Action Level, or Human Health Standard for Class C Waters
- Blank cell indicates analyte was not detected

CDM Smith

Scale in Feet

0 100 200

Figure 1: Potentiometric Surface Map

August 2014 Semi-Annual Sampling Event
Closed East Lake Landfill
East Lake, North Carolina

Appendix A

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#: 6016

DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO ,NC 27954

DATE COLLECTED: 08/19/14
DATE REPORTED : 09/29/14

REVIEWED BY:

PARAMETERS	MDL	SWSL	Downstream	Well #1 Shallow	Well #1 Deep	Well #2 Shallow	Well #2 Deep	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.7	6.8	7.4	6.5	6.8	08/19/14	BF	4500HB-00
Total Suspended Residue, mg/l	1.0	1.0		87		71		08/20/14	LW	2540D-97
Chloride, mg/l	5.0	5.0	38	106	97	72	422	08/25/14	CMC	4500CLB-97
Sulfate, mg/l	5.0	250.0	10.2 J	111 J	--- U	6.9 J	45.5 J	08/20/14	TRB	4500SO42E9
Antimony, ug/l	0.12	6.0	--- U	--- U	--- U	--- U	--- U	08/26/14	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	4.5 J	31	0.38 J	5.5 J	0.92 J	08/26/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	16.1 J	76.6 J	3.7 J	138	9.6 J	08/26/14	LFJ	EPA200.8
Beryllium, ug/l	0.04	1.0	0.07 J	0.09 J	--- U	0.07 J	--- U	08/26/14	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	6	0.13 J	1	1	0.88 J	08/26/14	LFJ	EPA200.8
Cobalt, ug/l	0.12	10.0	2.8 J	0.69 J	0.20 J	2.0 J	0.65 J	08/26/14	LFJ	EPA200.8
Copper, ug/l	0.10	10.0	1.8 J	9.3 J	29	5.1 J	22	08/26/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	0.81 J	0.66 J	--- U	0.77 J	6.8 J	08/26/14	LFJ	EPA200.8
Lead, ug/l	0.13	10.0	1.1 J	1.4 J	3.1 J	1.8 J	4.0 J	08/26/14	LFJ	EPA200.8
Nickel, ug/l	0.12	50.0	2.8 J	5.8 J	22.6 J	8.2 J	10.7 J	08/26/14	LFJ	EPA200.8
Selenium, ug/l	0.16	10.0	0.69 J	1.4 J	0.62 J	1.4 J	3.4 J	08/26/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	--- U	1.0 J	0.09 J	0.69 J	0.19 J	08/27/14	LFJ	EPA200.8
Thallium, ug/l	0.13	5.5	--- U	--- U	--- U	--- U	--- U	08/26/14	LFJ	EPA200.8
Vanadium, ug/l	0.06	25.0	1.7 J	2.1 J	--- U	2.0 J	--- U	08/26/14	LFJ	EPA200.8
Zinc, ug/l	0.53	10.0	16	9.6 J	410	22	217	08/26/14	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	536	1435	954	1617	1775	08/19/14	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	3.52	0.73	0.79	1.68	1.68	08/19/14	BF	4500OG-01
Temperature, °C			30	21	20	25	23	08/19/14	BF	2550B-00
Static Water Level, feet				5.94	6.18	4.93	4.52	08/19/14	BF	
Well Depth, feet				18.14	55.90	14.52	27.91	08/19/14	BF	
ORP, mv				-90	+48	-80	+16	08/19/14	BF	2580B
Turbidity (Field), NTU	1.0	1.0	12.7	47.6	14.2	25.4	23.1	08/19/14	BF	2130B-01

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

ID#: 6016

DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO ,NC 27954

DATE COLLECTED: 08/19/14
DATE REPORTED : 09/29/14

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #3 Shallow	Well #3 Deep	Well #4 Shallow	Well #4 Deep	Well #5 Shallow	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.4	7.0	6.9	6.9	6.4	08/19/14	BF	4500HB-00
Total Suspended Residue, mg/l	1.0	1.0	34		96		135	08/20/14	LW	2540D-97
Chloride, mg/l	5.0	5.0	208	127	228	95	96	08/25/14	CMC	4500CLB-97
Sulfate, mg/l	5.0	250.0	--- U	62.8 J	11.2 J	17.0 J	11.0 J	08/20/14	TRB	4500SO42E9
Antimony, ug/l	0.12	6.0	--- U	--- U	0.27 J	--- U	--- U	08/26/14	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	1.0 J	0.19 J	3.5 J	0.40 J	20	08/26/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	130	10.1 J	222	8.6 J	240	08/26/14	LFJ	EPA200.8
Beryllium, ug/l	0.04	1.0	0.08 J	--- U	0.22 J	0.04 J	0.10 J	08/26/14	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.07 J	0.18 J	0.98 J	0.56 J	0.16 J	08/26/14	LFJ	EPA200.8
Cobalt, ug/l	0.12	10.0	0.69 J	0.15 J	6.1 J	0.22 J	2.1 J	08/26/14	LFJ	EPA200.8
Copper, ug/l	0.10	10.0	2.2 J	41	20	16	16	08/26/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	0.46 J	--- U	7.1 J	--- U	1.9 J	08/26/14	LFJ	EPA200.8
Lead, ug/l	0.13	10.0	0.52 J	9.9 J	5.8 J	11	3.9 J	08/26/14	LFJ	EPA200.8
Nickel, ug/l	0.12	50.0	4.3 J	3.0 J	12.7 J	2.5 J	6.6 J	08/26/14	LFJ	EPA200.8
Selenium, ug/l	0.16	10.0	4.1 J	0.92 J	2.5 J	0.78 J	3.0 J	08/26/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	2.8 J	0.20 J	2.2 J	--- U	--- U	08/27/14	LFJ	EPA200.8
Thallium, ug/l	0.13	5.5	--- U	--- U	--- U	--- U	--- U	08/26/14	LFJ	EPA200.8
Vanadium, ug/l	0.06	25.0	1.6 J	0.22 J	9.4 J	0.48 J	6.6 J	08/26/14	LFJ	EPA200.8
Zinc, ug/l	0.53	10.0	7.4 J	44	236	10	25	08/26/14	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	1695	1075	1540	985	1085	08/19/14	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	0.53	3.55	0.95	1.24	0.80	08/19/14	BF	45000G-01
Temperature, °C			25	24	21	19	21	08/19/14	BF	2550B-00
Static Water Level, feet			3.50	3.00	4.45	3.21	8.81	08/19/14	BF	
Well Depth, feet			14.83	49.40	16.90	52.49	19.71	08/19/14	BF	
ORP, mv			-51	-13	-75	-42	-61	08/19/14	BF	2580B
Turbidity (Field), NTU	1.0	1.0	18.8	46.2	110	14.9	80.3	08/19/14	BF	2130B-01

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO ,NC 27954

DATE COLLECTED: 08/19/14
DATE REPORTED : 09/29/14

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #5 Deep	Duplicate	Analysis Date	Analyst	Method Code
PH (field measurement), Units			7.2		08/19/14	BF	4500HB-00
Chloride, mg/l	5.0	5.0	53		08/25/14	CMC	4500CLB-97
Sulfate, mg/l	5.0	250.0	6.0 J		08/20/14	TRB	4500SO42E97
Antimony, ug/l	0.12	6.0	--- U	--- U	08/26/14	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	0.27 J	0.32 J	08/26/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	4.3 J	8.1 J	08/26/14	LFJ	EPA200.8
Beryllium, ug/l	0.04	1.0	--- U	--- U	08/26/14	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.31 J	--- U	08/26/14	LFJ	EPA200.8
Cobalt, ug/l	0.12	10.0	0.14 J	0.22 J	08/26/14	LFJ	EPA200.8
Copper, ug/l	0.10	10.0	32	15	08/26/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	--- U	--- U	08/26/14	LFJ	EPA200.8
Lead, ug/l	0.13	10.0	2.3 J	10	08/26/14	LFJ	EPA200.8
Nickel, ug/l	0.12	50.0	3.2 J	2.4 J	08/26/14	LFJ	EPA200.8
Selenium, ug/l	0.16	10.0	0.22 J	0.72 J	08/26/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	0.21 J	0.21 J	08/27/14	LFJ	EPA200.8
Thallium, ug/l	0.13	5.5	--- U	--- U	08/26/14	LFJ	EPA200.8
Vanadium, ug/l	0.06	25.0	0.22 J	0.5 J	08/26/14	LFJ	EPA200.8
Zinc, ug/l	0.53	10.0	211	9.3 J	08/26/14	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	792		08/19/14	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	2.04		08/19/14	BF	4500OG-01
Temperature, °C			21		08/19/14	BF	2550B-00
Static Water Level, feet			9.55		08/19/14	BF	
Well Depth, feet			60.03		08/19/14	BF	
ORP, mv			+16		08/19/14	BF	2580B
Turbidity (Field), NTU	1.0	1.0	9.87		08/19/14	BF	2130B-01

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

CLIENT: DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO, NC 27954

CLIENT ID: 6016
ANALYST: MAO
DATE COLLECTED: 08/19/14
DATE REPORTED: 09/29/14

REVIEWED BY: _____

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	08/25/14 Downstream	08/25/14 Well #1 Shallow	08/25/14 Well #1 Deep	08/25/14 Well #2 Shallow	08/26/14 Well #2 Deep
	Date Analyzed:						
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	0.70 J	--- 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	24.80	0.30 J
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	2.80	--- 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: DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO, NC 27954

CLIENT ID: 6016

ANALYST: MAO
DATE COLLECTED: 08/19/14
DATE REPORTED: 09/29/14

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	08/26/14 Well #3 Shallow	08/26/14 Well #3 Deep	08/26/14 Well #4 Shallow	08/26/14 Well #4 Deep	08/26/14 Well #5 Shallow
	Date Analyzed:						
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	0.30 J
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: DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO, NC 27954

CLIENT ID: 6016

ANALYST: MAO
DATE COLLECTED: 08/19/14
DATE REPORTED: 09/29/14

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	Date Analyzed: 08/26/14 Well #5 Deep	08/26/14 Duplicate
1. Chloromethane	0.77	1.0	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U

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

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

CHAIN OF CUSTODY RECORD

CLIENT: 6016 **Week:** 35

DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO NC 27954

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	TSR	Chloride	Sulfate	Metals	Conductivity	DO	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2	ORP	Field Parmeter		
CHLORINE NEUTRALIZED AT COLLECTION																					
pH CHECK (LAB)										12					12	12	12				
CONTAINER TYPE, P/G						P	P	P	P	P	P	P	P		G	G	G	P	P		
CHEMICAL PRESERVATION						A	A	A	A	A	A	A	A		E	E	E	A	A		
Downstream	8-19-14	1230		30	6	G		G	G	G	G	G	G		G	G			G		
Well #1 Shallow	8-19-14	1035		21	8	G	G	G	G	G	G	G	G	G	G	G	G	G	G		
Well #1 Deep	8-19-14	1015		20	6	G		G	G	G	G	G	G	G	G	G		G	G		
Well #2 Shallow	8-19-14	1325		25	7	G	G	G	G	G	G	G	G	G	G	G		G	G		
Well #2 Deep	8-19-14	1340		23	6	G		G	G	G	G	G	G	G	G	G		G	G		
Well #3 Shallow	8-19-14	1135		25	7	G	G	G	G	G	G	G	G	G	G	G		G	G		
Well #3 Deep	8-19-14	1135		24	6	G		G	G	G	G	G	G	G	G	G		G	G		
Well #4 Shallow	8-19-14	0932		21	7	G	G	G	G	G	G	G	G	G	G	G		G	G		
Well #4 Deep	8-19-14	0950		19	6	G		G	G	G	G	G	G	G	G	G		G	G		
Well #5 Shallow	8-19-14	1058		21	7	G	G	G	G	G	G	G	G	G	G	G		G	G		
Well #5 Deep	8-19-14	1120		21	6	G		G	G	G	G	G	G	G	G	G		G	G		

PARAMETERS/TESTS

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

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

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

SAMPLES COLLECTED BY: (Please Print) Bobby / Tom

SAMPLES RECEIVED IN LAB AT 1.8 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Tom	8-19-14 4:24	[signature]	8/19/14 426
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS: WELL #4 DUP IS DUPLICATE

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

No. 281703

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: 6016 **Week:** 35

DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO NC 27954

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	TSR	Chloride	Sulfate	Metals	Conductivity	DO	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2	ORP	Field Parmeter		
CHLORINE NEUTRALIZED AT COLLECTION																					
pH CHECK (LAB)										22					22	22					
CONTAINER TYPE, P/G						P	P	P	P	P	P	P	P		G	G	G	P	P		
CHEMICAL PRESERVATION						A	A	A	A	A	A	A	A		E	E	E	A	A		
Duplicate	8-19-14	0950		19	3					G					G	G					

PARAMETERS/TESTS

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

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

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

SAMPLES COLLECTED BY: (Please Print) Bobby / Tom

SAMPLES RECEIVED IN LAB AT 1.8 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Tom	8-19-14 4:24	B	8/19/14 426
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

№ 281702

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#: 6016 A

DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO ,NC 27954

DATE COLLECTED: 08/19/14
DATE REPORTED : 09/29/14

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #6 Shallow	Well #6 Deep	Well #7 Shallow	Equipment Blank	Trip Blank	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.6	6.9	6.4			08/19/14	BF	4500HB-00
Total Suspended Residue, mg/l	1.0	1.0	47		7.2			08/20/14	LW	2540D-97
Chloride, mg/l	5.0	5.0	33	318	388			08/25/14	CMC	4500CLB-97
Sulfate, mg/l	5.0	250.0	13.3 J	38.0 J	--- U			08/20/14	TRB	4500SO42E9
Antimony, ug/l	0.12	6.0	--- U	0.83 J	0.24 J	--- U		08/26/14	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	26	1.1 J	1.8 J	--- U		08/26/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	248	6.2 J	52.3 J	--- U		08/26/14	LFJ	EPA200.8
Beryllium, ug/l	0.04	1.0	0.04 J	--- U	0.06 J	--- U		08/26/14	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.04 J	0.11 J	0.10 J	--- U		08/26/14	LFJ	EPA200.8
Cobalt, ug/l	0.12	10.0	1.3 J	0.21 J	0.89 J	--- U		08/26/14	LFJ	EPA200.8
Copper, ug/l	0.10	10.0	0.29 J	0.81 J	1.8 J	--- U		08/26/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	0.26 J	--- U	0.40 J	--- U		08/26/14	LFJ	EPA200.8
Lead, ug/l	0.13	10.0	--- U	--- U	--- U	--- U		08/26/14	LFJ	EPA200.8
Nickel, ug/l	0.12	50.0	3.5 J	2.5 J	4.0 J	0.16 J		08/26/14	LFJ	EPA200.8
Selenium, ug/l	0.16	10.0	0.84 J	3.0 J	5.3 J	--- U		08/26/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	--- U	--- U	--- U	--- U		08/27/14	LFJ	EPA200.8
Thallium, ug/l	0.13	5.5	--- U	--- U	--- U	--- U		08/26/14	LFJ	EPA200.8
Vanadium, ug/l	0.06	25.0	1.2 J	--- U	0.78 J	--- U		08/26/14	LFJ	EPA200.8
Zinc, ug/l	0.53	10.0	1.3 J	20	3.0 J	--- U		08/26/14	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	1452	1546	1842			08/19/14	BF	2510B-97
Dissolved Oxygen, mg/l	0.1	0.1	0.64	3.97	0.61			08/19/14	BF	4500OG-01
Temperature, °C			25	25	27			08/19/14	BF	2550B-00
Static Water Level, feet			5.76	6.41	3.90			08/19/14	BF	
Well Depth, feet			19.82	51.22	20.70			08/19/14	BF	
ORP, mv			-96	+5	-26			08/19/14	BF	2580B
Turbidity (Field), NTU	1.0	1.0	10.6	9.13	12.2			08/19/14	BF	2130B-01

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

CLIENT: DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO, NC 27954

CLIENT ID: 6016 A

ANALYST: MAO
DATE COLLECTED: 08/19/14
DATE REPORTED: 09/29/14

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	08/26/14 Well #6 Shallow	08/26/14 Well #6 Deep	08/29/14 Well #7 Shallow	08/29/14 Equipment Blank	08/29/14 Trip Blank
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	1.70	--- 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	0.30 J
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	6.70	--- 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	4.80	--- 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, 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: 6016 A **Week:** 35

DARE CO. LANDFILL (EAST LAKE)
MR. EDWARD L. MANN
DARE CO. PUBLIC WORKS
P.O. BOX 1000
MANTEO NC 27954

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	TSR	Chloride	Sulfate	Metals	Conductivity	DO	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	ORP	Field Parmeter
CHLORINE NEUTRALIZED AT COLLECTION																		
pH CHECK (LAB)										12					12	12		
CONTAINER TYPE, P/G						P	P	P	P	P	P	P	P		G	G	P	P
CHEMICAL PRESERVATION						A	A	A	A	A	A	A	A		E	E	A	A
Well #6 Shallow	8-19-14	1400		25	7	G	G	G	G	G	G	G	G	G	G	G	G	G
Well #6 Deep	8-19-14	1415		25	6	G		G	G	G	G	G	G	G	G	G	G	G
Well #7 Shallow	8-19-14	1255		27	7	G	G	G	G	G	G	G	G	G	G	G	G	G
Equipment Blank	8-19-14	1130			3					G					G	G		
Trip Blank	8-19-14				2										G	G		

PARAMETERS/TESTS

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

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

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

SAMPLES COLLECTED BY: (Please Print) Bobby / Tom

SAMPLES RECEIVED IN LAB AT 1.8 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bobby Tom	8-19-14 4:24	[signature]	8/19/14 4:20
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

№ 281701

CDM Smith

cdmsmith.com