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):

Richardson Smith Gardner and Associates, Inc. (Consultant)

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

Name: Joan A. Smyth, P.G. Phone: 919-828-0577 x 221

E-mail: joan@rsgengineers.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Halifax County MSW Landfill	921 Liles Road Aurelian Springs, NC	42-04	.0500	February 16th - 18th, 2010

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.**

Joan A. Smyth	Senior Hydrogeologist	919-828-0577 x 221
Facility Representative Name (Print)	Title	(Area Code) Telephone Number

Signature 4/6/10 Date

Affix NC Licensed/ Professional Geologist Seal

14 N. Boylan Avenue Raleigh, NC 27603

Facility Representative Address

c-0828

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

Revised 6/2009

Halifax County Landfill

Ground Water Monitoring Report

February 2010 Semi-annual Monitoring Event

Halifax County Landfill
Halifax County, North Carolina
NC Solid Waste Permit # 42-04

Prepared for:
Halifax County Solid Waste Department
P. O. Box 70
Halifax, North Carolina 27839

April 2010

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

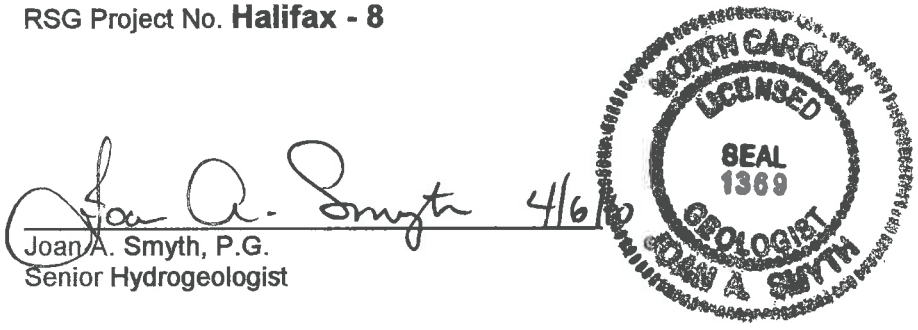
Ground Water Monitoring Report
Halifax County Landfill

March 2010 Semi - Annual Report

Prepared for:

Halifax County Solid Waste Department
P.O. Box 327
Halifax, North Carolina 27839

RSG Project No. **Halifax - 8**



Joan A. Smyth, P.G.
Senior Hydrogeologist

April 2010

RICHARDSON SMITH GARDNER
& ASSOCIATES
ENGINEERING & GEOLOGICAL
SERVICES

PRINTED ON 100% RECYCLED PAPER

Halifax County Landfill

Semi-annual Ground Water Monitoring Report
February 2010 Monitoring Event

FIGURES

TABLES

APPENDICES

1.0 Introduction

The Halifax County Landfill, operating under Solid Waste Permit #42-04, is required to submit semi-annual ground water monitoring reports for assessment monitoring. This report presents the results of the first semi-annual monitoring event for 2010, conducted on February 16-18, 2010 This event was performed to comply with the semi-annual monitoring schedule required by NC Solid Waste Regulations.

The Halifax County Landfill is currently accepting C&D waste over the closed MSW landfill. All MSW is being transferred off-site to a lined landfill. The old landfill has been closed per Solid Waste Regulations and the certification report was submitted to the SWS in September 1998. The ground water monitoring network consists of 12 wells located around the perimeter of the landfill (**Figure 1**). Also included in the monitoring network are three surface water sampling points up and downstream of the landfill (**Figure 1**).

This report includes summaries of the field procedures, laboratory analyses, statistical analyses, and ground water characterization. Also included are summary tables of the results, graphs of the data, laboratory analytical reports, and statistical results.

2.0 Site Hydrogeology

A review of the *1985 North Carolina Geological Map* as well as *Ground Water in the Halifax Area, North Carolina* (Dept. of Conservation and Development Bulletin #51, 1946) indicates that the landfill site is situated on the eastern edge of the Eastern Piedmont Physiographic Province. The site is just west of the Coastal Plain overlap. Western Halifax County is underlain by an assemblage of felsic to intermediate crystalline igneous and metamorphic rocks of early to late Paleozoic age. The rocks of the eastern piedmont exhibit a northeast strike and locally dip gently eastward as a result of regional metamorphism and folding which produced a broad plunging anticline. The area was simultaneously intruded by a number of felsic (granite) plutons. The rock formation underlying the subject site is a granitic pluton identified as the Butterwood Creek intrusive.

Depths to ground water generally range from near surface in lowland areas along Brewer's Creek and its tributary to up to 45 ft. below grade along the ridge east of the landfill. Ground water at the site is flowing generally to the west towards Brewer's Creek and its tributary. There are minor seasonal variations in the flow pattern, but overall the direction of flow is the same.

Water levels are collected from piezometers upgradient of MW-15r to evaluate ground water direction in this area. This data indicates ground water flow is consistently to the west and there is no ground water reversal in the area of MW-15r. Boring logs for the groundwater monitoring wells are included in **Appendix A**.

3.0 Sampling Procedures

The sampling event, performed by Environment 1, Inc., consisted of collecting samples from twelve (12) ground water wells (MW-1, MW-2a, MW-2ad, MW-3a, MW-3d, MW-6d, MW-7d, MW-15r, & MW-16a, MW-17, MW-18s, MW-18d), shown in **Figure 1**, in accordance with the

approved site Water Quality Monitoring Plan[1.] Well G-13 is scheduled to be sampled annually. However, during this event well G-13 evidence was found that G-13 had been damaged and could not be sampled. This well will likely need to be replaced prior to the next sampling event. Also included in the analysis were trip and field blanks for quality control. Surface water samples were collected from three locations (SW-1 through SW-3) up and downstream from the landfill.

Sampling methods followed the protocol outlined in the North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities (DENR, DWM). The depth to water in each well was gauged prior to purging and sampling. Field measurements of pH, specific conductivity, and temperature were obtained from each well. Water table elevations and field parameter results are included in **Tables 1 and 2,** respectively.

All samples were collected by Environment 1 personnel in laboratory prepared containers for the specified analytical procedures. Sampling equipment (bailers) were cleaned in the laboratory and transported to the site in aluminum foil. Ground water samples were properly preserved, placed on ice, and transported to the laboratory facility within the specified holding times for each analysis.

4.0 Field & Laboratory Results

4.1 Laboratory Analysis

The ground and surface water samples were transported to Environment 1, Inc., a North Carolina certified laboratory (NC Wastewater ID #10). Laboratory analysis consisted of the full suite of RCRA Subtitle D Appendix II constituents for most of the compliance wells (MW-2a, MW-2ad, MW-3a, MW-3d, MW-6d, MW-7d, MW-15r, MW-16a, MW-17, and MW-18s). Appendix I constituents were analyzed for the background well (MW-1), and surface water points. Parameters were reported at Solid Waste Practical Quantitation Limits (SWSLs). The laboratory analytical report is included as **Appendix B**, and a copy of the recent most lab data for the site is included on the attached CD as a text file (attached to the back cover).

4.2 Field and Laboratory Results

The field parameter results (**Table 2**) have remained consistent with previous sampling events. Detected constituents are presented in **Tables 3 & 4**.

Five (5) inorganic constituents (barium, cadmium, iron, mercury and zinc), shown in **Table 3** were detected in seven (7) monitoring wells. Two constituents, iron and cadmium, were detected above the 2L standard. One (1) inorganic constituent (zinc) was detected in surface water sample, SW-3 above the SWSL. The locations of these samples are shown on **Figure 1**.

Ten (10) organic constituents, shown in **Table 4**, were detected in nine of the monitoring wells (MW-2a, MW-2ad, MW-3a, MW-3d, MW-6d, MW-15r, MW-16a, and MW-17). Five (5) constituents were found at concentrations above their respective 2L standards.

1 Water Quality Monitoring Plan, Halifax County Landfill, Richardson Smith Gardner & Associates, May 2009.

- Benzene (MW-2ad, MW-3a, MW-6d & MW-16a);
- 1,4-Dichlorobenzene (MW-16a);
- Tetrachloroethene (MW-3d, MW-15r, MW-16a & MW-17)
- Trichloroethene (MW-2a, MW-2ad & MW-16a); and
- Vinyl Chloride (MW-2a, MW-2ad, MW-3a & MW-6d)

Constituents detected below the SWSL are denoted as "J" values and are also included in **Tables 3 & 4**.

5.0 Statistical Analysis and Results

5.1 Statistical Analysis

The laboratory data from the sampling event was reviewed and analyzed in order to evaluate trends and changes in the results as well as statistically significant differences between up and down gradient wells. Data entry and analysis was performed using the Chempoint/ Chemstat statistical software package developed specifically for RCRA Subtitle D sites (Starpoint Software, Cincinnati, OH). Chemstat follows EPA and DWM protocols for approved statistical analysis methods for groundwater data.

The data from the February 2010 sampling event were added to our existing database for this site. The data were reviewed to evaluate the most appropriate analysis methods. Initial analysis consisted of a basic review of the data and of time-concentration graphs (included in **Appendix C**) to determine any major changes or trends in the data. Non-parametric testing methods were used due to the high percentage of non-detects, and the lack of normality, in the data.

Statistical analysis was performed using MW-1 as the upgradient or background well and MW-2a, MW-2ad, MW-3a, MW-3d, MW-6d, MW-7d, MW-15r, MW-16a, MW-17 and MW-18s as the down gradient or compliance wells. The statistical analysis reports are summarized in **Table 5.**

5.2 Statistical Results

Statistically significant differences from background concentrations (**Table 5**) were found for, 1,1-dichloroethane (MW-2a, MW-2ad, MW-3d, MW-15r & MW-16a), 1,4-dichlorobenzene (MW-15r), barium (MW-6d), cadmium (MW-6d), chlorobenzene (MW-3a & MW-6d), cis-1,2-dichloromethane (MW-2ad, MW-2a & MW-16a), dichlorodifluoromethane (MW-16a), tetrachloroethene (MW-16a), and trichloroethene (MW-2a & MW-16a).

5.3 2L/MCL Statistical Analysis

For wells that showed statistically significant differences from background concentrations, additional analysis was performed. This analysis is required as part of ongoing Assessment monitoring for landfills in North Carolina. To perform the analysis, the respective 2L standard or MCL was determined for each parameter with statistically significant results. Each compliance well with statistical significance was re-analyzed against the 2L ground water standard or MCL if no 2L standard was available as a Ground Water Protection Standard (GWPS).

The statistical results for this additional analysis are presented in **Table 5**. An upper tolerance limit higher than the GWPS standard was considered to be a statistically significant result. This analysis indicated statistically significant results for 1,4-dichlorobenzene (MW-15r), barium (MW-6d), cadmium (MW-6d), tetrachloroethene (MW-16a), and trichloroethene (MW-2a & MW-16a).

6.0 Ground Water Characterization

A potentiometric surface map was prepared from ground water elevation data collected during this sampling event. The data indicates that ground water is flowing generally to the west towards Brewer's Creek. This is consistent with ground water flow patterns previously detected for the site. The potentiometric surface map is attached as **Figure 1**.

Ground water flow velocities during the sampling event were calculated for several monitoring wells using the equation: $V = KI/n$

where: K = hydraulic conductivity
I = ground water gradient
n = porosity

Ground water flow velocities ranged from 0.014 ft/day (MW-16a) to 0.468 ft/day (MW-2a). These calculated flow velocities are included in **Table 1**.

7.0 Corrective Actions

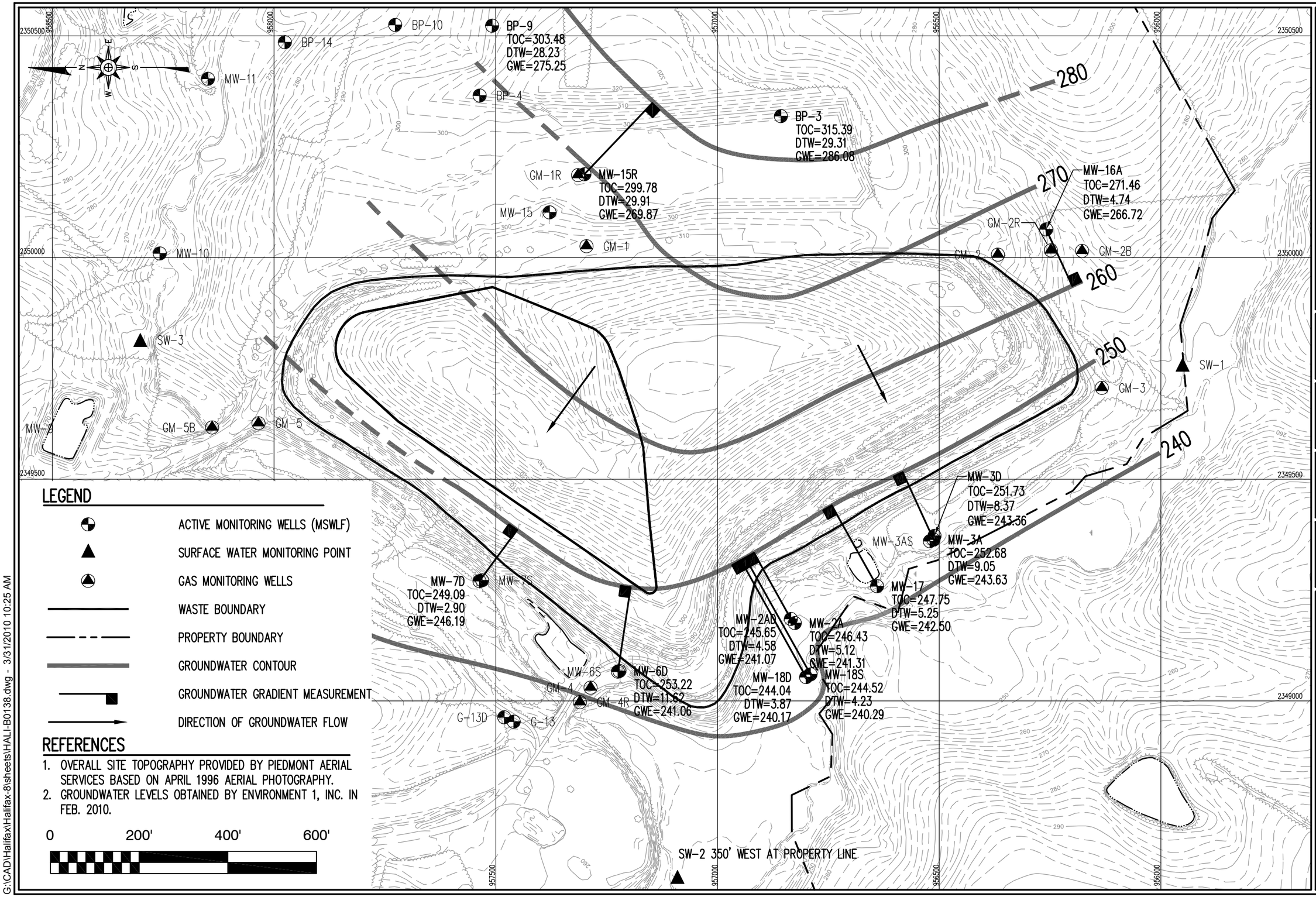
A Corrective Action Plan[2] has been approved by NCDENR and is in the process of implementation. Analytical parameters for Monitored Natural Attenuation (MNA) have been added to the analytic list for certain wells at the site. This is the first analysis of these parameters conducted to date. A summary of these analytical data is provided in **Table 6**. Implementation of the landfill gas portion of the CAP is planned for this fall.

8.0 Conclusions

In general, contaminant concentrations have remained stable over time with the exception of a historical increase in trichloroethane and tetrachoroethene in well MW-16a. This event appears to mark the end of that increasing trend with a decrease in concentrations of both constituents in this well. Future groundwater monitoring of this well will indicate whether the decrease in concentrations seen during this event will continue as a trend. The next monitoring event will be conducted in August 2010.

2 Corrective Action Plan Halifax County Landfill, Richardson Smith Gardner & Associates, May 2009.

Figures



LEGEND

- ACTIVE MONITORING WELLS (MSWLF)
- SURFACE WATER MONITORING POINT
- GAS MONITORING WELLS
- WASTE BOUNDARY
- PROPERTY BOUNDARY
- GROUNDWATER CONTOUR
- GROUNDWATER GRADIENT MEASUREMENT
- DIRECTION OF GROUNDWATER FLOW

REFERENCES

1. OVERALL SITE TOPOGRAPHY PROVIDED BY PIEDMONT AERIAL SERVICES BASED ON APRIL 1996 AERIAL PHOTOGRAPHY.
2. GROUNDWATER LEVELS OBTAINED BY ENVIRONMENT 1, INC. IN FEB. 2010.

0 200' 400' 600'

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FIGURE NO.	1
FILE NAME	HALI-B0138
SCALE:	AS SHOWN
PROJECT NO.	HALIFAX 8
CHECKED BY:	
DRAWN BY:	J.A.L.
DATE:	Mar. 2010

TITLE:
HALIFAX COUNTY LANDFILL
GROUND WATER
POTENTIOMETRIC SURFACE MAP
FEBRUARY 2010

G:\CAD\Halifax\Halifax-8sheets\HALI-B0138.dwg - 3/31/2010 10:25 AM

Tables

By: KBS
Date: 3/25/2010

Table 1
Halifax County Closed Landfill
Ground Water Elevations & Velocities
2/16-18/2010

Monitoring Location	TOC Elevation (ft)	Depth to Water (ft)	Water Table Elevation (ft)	Hydraulic Conductivity (ft/day)	Assumed Porosity	Hydraulic Gradient (ft/ft)	Ground Water Velocity (ft/day)
MW-1	--	33.28	--	--	--	--	--
MW-2a	246.43	5.12	241.31	1.835	0.2	0.051	0.468
MW-2ad	245.65	4.58	241.07	--	--	--	--
MW-3a	252.68	9.05	243.63	0.311	0.2	0.040	0.062
MW-3d	251.73	8.37	243.36	--	--	--	--
MW-6d	253.22	11.62	241.6	--	--	--	--
MW-7d	249.09	2.9	246.19	--	--	--	--
MW-15r	299.78	29.91	269.87	--	0.2		--
MW-16a	271.46	4.74	266.72	0.057	0.2	0.048	0.014
MW-17	247.75	5.25	242.5	--	--	--	--
MW-18s	244.52	4.23	240.29	--	--	--	--
MW-18d	244.04	3.87	240.17	--	--	--	--
BP-3	315.39	29.31	286.08	--	--	--	--
BP-9	303.48	28.23	275.25	--	--	--	--

MW-1 is not used in the ground water characterization calculations due to its remote location from the landfill
Hydraulic Conductivity data from slug testing
Porosity values assumed from Groundwater & Wells (Driscoll)
Velocity Calculated from V=K*I/n

V = velocity
K = Hydraulic Conductivity
I = Gradient
n = Porosity

Deep wells not used in velocity calculations

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

KBS
3/25/2010

Table 2
Halifax County Closed Landfill
Field Parameters
2/16-18/2010

Monitoring Location	pH (std units)	Specific Conductivity (umhos/cm)	Temperature (degrees C)	static water (feet)
MW-1	4.84	29	13	33.28
MW-2a	6.78	278	12.55	5.12
MW-2ad	6.97	544	16.55	4.58
MW-3a	6.92	852	13.29	9.05
MW-3d	6.55	154	14.86	8.37
MW-6d	6.75	617	14.99	11.62
MW-7d	5.61	49	9	2.9
MW-15r	4.68	75	12	29.91
MW-16a	5.53	142	10	4.74
MW-17	6.53	131	14.41	5.25
MW-18s	7.04	269	12.96	4.23
MW-18D	6.63	166	9.65	3.87
SW-1	6.6	---	8	---
SW-2	6.2	---	4	---
SW-3	7.1	---	4	---

< BQL - Below Quantitive Limit
Note: Field data collected by Environment 1 Personnel.

By: KBS
Date: 3/25/2010

Table 3
Halifax County Closed Landfill
Detected Inorganic Constituents
2/16-18/2010

Monitoring Location	SWSL	2L or GWP Standard	MW-1	MW-2a	MW-2ad	MW-3a	MW-3d	MW-6d	MW-7d	MW-15r	MW-16a	MW-17	MW-18S	MW-18D	SW-1	SW-2	SW-3
Antimony	6	64	0.4 J	ND	ND	0.1 J	0.8 J	0.1 J	0.1 J	0.2 J	ND	ND	0.2 J	0.1 J	ND	ND	0.1 J
Arsenic	10	50	ND	2.3 J	2.2 J	3.1 J	0.5 J	0.4 J	ND	ND	0.5 J	0.5 J	2.7 J	0.2 J	0.5 J	0.8 J	1.8 J
Barium	100	2000	23.7 J	**152**	**139**	82.8 J	63.9 J	**562**	44.6 J	64.2 J	107	60 J	93.7 J	65. J	28.7 J	32.1 J	24.7 J
Beryllium	1	4	0.1 J	0.7 J	0.1 J	ND	0.2 J	0.5 J	0.1 J	0.2 J	0.8 J	0.8 J	0.2 J	ND	ND	0.1 J	0.2 J
Cadmium	1	1.75	0.1 J	0.4 J	0.1 J	0.7 J	0.6 J	**1.9**	0.3 J	0.1 J	0.5 J	0.3 J	0.4 J	0.7 J	0.1 J	0.1 J	0.1 J
Cobalt	10	70	0.4 J	7.7 J	5.6 J	1.8 J	0.1 J	2.7 J	0.2 J	0.4 J	0.7 J	1 J	6.8 J	0.1 J	0.2 J	0.6 J	0.5 J
Copper	10	1000	4.7 J	2 J	1.2 J	2.1 J	1.5 J	1.8 J	1.2 J	3 J	1.3 J	1.8 J	1.8 J	1.1 J	0.7 J	0.6 J	0.6 J
Chromium, total	10	50	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	0.3 J	ND	ND	ND	ND
Iron	300	300	NA	**19800**	**3005**	**102875**	240 J	**911**	NA	NA	NA	**3115**	**20075**	161 J	NA	NA	NA
Lead	10	15	0.2 J	1.6 J	0.5 J	0.4 J	0.5 J	0.4 J	0.3 J	0.1 J	1.5 J	3.6 J	5.4 J	0.5 J	0.4 J	0.2 J	0.1 J
Mercury	0.2	1.05	ND	ND	ND	ND	0.11 J	ND	0.03 J	**0.48**	0.11 J	0.1 J	ND	0.07 J	NA	NA	NA
Nickel	50	100	0.3 J	1.1 J	1.5 J	0.8 J	0.7 J	1.9 J	0.4 J	0.3 J	0.6 J	0.9 J	1.5 J	2.1 J	0.5 J	1 J	3.1 J
Selenium	10	50	ND	0.4 J	0.2 J	0.7 J	ND	1.5 J	ND	ND	ND	ND	ND	ND	ND	2.9 J	8.5 J
Silver	10	17.5	0.4 J	0.4 J	0.1 J	0.2 J	0.3 J	0.2 J	0.2 J	0.1 J	0.2 J	0.1 J	0.2 J	0.4 J	0.1 J	0.1 J	0.1 J
Thallium	5	5	0.1 J	ND	ND	ND	ND	ND	ND	0.1 J	ND	0.1 J	0.1 J	0.1 J	ND	ND	0.1 J
Tin	100	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6 J	ND	NA	NA	NA
Vanadium	25	3.5	0.4 J	4.3 J	1.5 J	2.2 J	1 J	1.1 J	0.7 J	0.3 J	1.5 J	4 J	4.7 J	1.3 J	1.9 J	1.9 J	11.2 J
Zinc	10	1050	2.8 J	**21**	7.6 J	4.5 J	7.2 J	**11**	9.4 J	4 J	9.2 J	**16**	7.6 J	6.8 J	3.7 J	7.1 J	**12**

ND - Not detected at or above SWSL
NA - Not analyzed
Shading - Concentrations above 2L standard or no 2L standard
Bold Letters - Concentrations below 2L standard
SWSL - Solid Waste Section Quantitation Limits
J - Detected constituents below the SWSL limit.
All results in ug/L
Sampling and analysis performed by Environment 1, Inc.

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

By: KBS
Date: 3/25/2010

Table 4
Halifax County Closed Landfill
Detected Organic Constituents
2/16-18/2010

Monitoring Location	SWSL	2L or GWP Standard	MW-1	MW-2a	MW-2ad	MW-3a	MW-3d	MW-6d	MW-7d	MW-15r	MW-16a	MW-17	MW-18S	MW-18D	SW-1	SW-2	SW-3
Benzene	1	1	ND	0.8 J	**1.4**	**2.9**	0.3 J	**1.8**	ND	ND	**1.5**	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	70	ND	14.6	**21.8**	3.5 J	**6.5**	0.5 J	ND	**5.3**	**8.0**	3.3 J	0.3 J	0.9 J	ND	ND	ND
1,1-Dichloroethene	5	7	ND	1 J	0.2 J	ND	0.4 J	ND	ND	ND	ND	0.2 J	ND	ND	ND	ND	ND
1,2- Dichlorobenzene	5	24	ND	ND	ND	ND	ND	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	1	0.38	ND	0.4 J	ND	ND	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,2- Dichloropropane	1	0.51	ND	ND	ND	0.7 J	ND	ND	ND	ND	0.3 J	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	1	6	ND	**1.1**	**1.3**	**2.6**	ND	**1.7**	ND	**6.6**	0.9 J	ND	ND	ND	ND	ND	ND
Beta-BHC	0.05	0.019	ND	ND	ND	ND	ND	ND	ND	0.04 J	ND	ND	ND	ND	ND	ND	ND
Bis (2-Ethylhexyl) Phthalate	15	---	ND	ND	13.3 J	ND	11.3 J	10.6 J	11.1 J	11.4 J	ND	11.8 J	ND	ND	ND	ND	ND
Dichlorodifluoromethane	5	1400	ND	0.9 J	0.9 J	ND	1.3 J	ND	ND	ND	**5.3**	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichlorethene	5	70	ND	**18.7**	**12.7**	0.9 J	4 J	1.5 J	ND	3.7 J	**19.1**	1.6 J	ND	0.6 J	ND	ND	ND
Chlorobenzene	3	50	ND	2.5 J	1.6 J	**7.6**	ND	**18.5**	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND
Chloroethane	10	2800	ND	0.7 J	1.7 J	1.4 J	ND	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND
Methylene chloride	1	5	ND	ND	ND	ND	ND	ND	ND	**3.2**	**2.6**	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	100	ND	ND	ND	ND	ND	ND	ND	ND	0.3 J	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1	0.7	ND	0.4 J	ND	ND	**1.9**	ND	ND	**2.5**	**35.1**	**1.6**	ND	ND	ND	ND	ND
Trichlorofluoromethane	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	0.8 J	ND	ND	ND	ND	ND	ND
Trichloroethene	1	2.8	ND	**7.3**	**3.4**	ND	**1.3**	ND	ND	**2.1**	**14.7**	**1.6**	ND	ND	ND	ND	ND
Toluene	1	1000	ND	ND	ND	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	1	0.015	ND	**5.2**	**5.0**	**2.1**	ND	**1.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - Not detected at or above SWSL .
Shading - Concentrations above 2L standard
Bold Letters - Concentrations below 2L standard
SWSL - Solid Waste Section Quantitation Limits
J - Detected constituents below the SWSL limit.
* All results in ug/L

Sampling and Analysis performed by Environment 1, Inc.

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

By: KBS
Date: 3/25/2010

Table 5
Halifax County Landfill
Statistical Analysis Summary
2/16-18/2010

Monitoring Well	Parameters	Detected level	Detection Limit	%ND	CL (%)	Test	Statistically Significant?	2L/MCL statistical analysis	Method for MCL analysis
MW-15R	1,1-Dichloroethane	5.3	<5	50.29	88.1	NPTL	Y	N	MCL-PTI (1992)
MW-3D	1,1-Dichloroethane	6.5	<5	50.29	88.1	NPTL	Y	N	MCL-PTI (1992)
MW-16A	1,1-Dichloroethane	8	<5	50.29	88.1	NPTL	Y	N	MCL-PTI (1992)
MW-2A	1,1-Dichloroethane	14.6	<5	50.29	88.1	NPTL	Y	N	MCL-PTI (1992)
MW-2AD	1,1-Dichloroethane	21.8	<5	50.29	88.1	NPTL	Y	N	MCL-PTI (1992)
MW-2A	1,4-Dichlorobenzene	1.1	<1	80.29	88.1	NPTL	N	--	--
MW-2AD	1,4-Dichlorobenzene	1.3	<1	80.29	88.1	NPTL	N	--	--
MW-6D	1,4-Dichlorobenzene	1.7	<1	80.29	88.1	NPTL	N	--	--
MW-3AS	1,4-Dichlorobenzene	2.6	<1	80.29	88.1	NPTL	N	--	--
MW-15R	1,4-Dichlorobenzene	6.6	<1	80.29	88.1	NPTL	Y	Y	MCL-PTI (1992)
MW-16A	Barium	0.107	<0.1	68.53	90.2	NPPL	N	--	--
MW-2AD	Barium	0.139	<0.1	68.53	90.2	NPPL	N	--	--
MW-2A	Barium	0.152	<0.1	68.53	90.2	NPPL	N	--	--
MW-6D	Barium	0.562	<0.1	68.53	90.2	NPPL	Y	Y	MCL-PTI (1992)
MW-2AD	Benzene	1.4	<1	80.55	90.2	NPPL	N	--	--
MW-16A	Benzene	1.5	<1	80.55	90.2	NPPL	N	--	--
MW-6D	Benzene	1.8	<1	80.55	90.2	NPPL	N	--	--
MW-3AS	Benzene	2.9	<1	80.55	90.2	NPPL	N	--	--
MW-6D	Cadmium	0.0019	<0.001	72.8	97.4	NPPL	Y	Y	MCL-PTI (1992)
MW-3AS	Chlorobenzene	7.6	<3	64.4	94.4	NPPL	Y	N	MCL-PTI (1992)
MW-6D	Chlorobenzene	18.5	<3	64.4	94.4	NPPL	Y	N	MCL-PTI (1992)
MW-2AD	Cis-1,2-Dichloroethene	12.66	<5	62.29	92.5	NPPL	Y	N	MCL-PTI (1992)
MW-2A	Cis-1,2-Dichloroethene	18.7	<5	62.29	92.5	NPPL	Y	N	MCL-PTI (1992)
MW-16A	Cis-1,2-Dichloroethene	19.1	<5	62.29	92.5	NPPL	Y	N	MCL-PTI (1992)
MW-16A	Dichlorodifluoromethane	5.3	<5	62.5	85.7	NPTL	Y	N	MCL-PTI (1992)
MW-15R	Mercury	0.00048	<0.0002	78.15	90.2	NPPL	N	--	--
MW-16A	Methylene Chloride	2.6	<1	70.32	94.9	NPPL	N	--	--
MW-15R	Methylene Chloride	3.2	<1	70.32	94.9	NPPL	N	--	--
MW-17	Tetrachloroethene	1.6	<1	66.94	90.2	NPPL	N	--	--
MW-3D	Tetrachloroethene	1.9	<1	66.94	90.2	NPPL	N	--	--
MW-15R	Tetrachloroethene	2.5	<1	66.94	90.2	NPPL	N	--	--

By: KBS
Date: 3/25/2010

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

Table 5
Halifax County Landfill
Statistical Analysis Summary
2/16-18/2010

Monitoring Well	Parameters	Detected level	Detection Limit	%ND	CL (%)	Test	Statistically Significant?	2L/MCL statistical analysis	Method for MCL analysis
MW-16A	Tetrachloroethene	35.1	<1	66.94	90.2	NPPL	Y	Y	MCL-PTI (1992)
MW-3D	Trichloroethene	1.3	<1	60	89	NPTL	N	--	--
MW-17	Trichloroethene	1.6	<1	60	89	NPTL	N	--	--
MW-15R	Trichloroethene	2.1	<1	60	89	NPTL	N	--	--
MW-2AD	Trichloroethene	3.4	<1	60	89	NPTL	N	--	--
MW-2A	Trichloroethene	7.3	<1	60	89	NPTL	Y	Y	MCL-PTI (1992)
MW-16A	Trichloroethene	14.7	<1	60	89	NPTL	Y	Y	MCL-PTI (1992)
MW-6D	Vinyl Chloride	1.1	<1	78.47	90.2	NPPL	N	--	--
MW-3AS	Vinyl Chloride	2.1	<1	78.47	90.2	NPPL	N	--	--
MW-2AD	Vinyl Chloride	5	<1	78.47	90.2	NPPL	N	--	--
MW-2A	Vinyl Chloride	5.2	<1	78.47	90.2	NPPL	N	--	--
MW-6D	Zinc	0.011	<0.010	59.37	92.5	NPPL	N	--	--
MW-17	Zinc	0.016	<0.010	59.37	92.5	NPPL	N	--	--
MW-2A	Zinc	0.021	<0.010	59.37	92.5	NPPL	N	--	--

NPTL Non-parametric Tolerance Limit (Inter-well comparision)
NPPL Non-parametric Prediction Limit (Inter-well comparision)
PPL Poisson Prediction Limit with 1/2 Detection Limit

Notes:

Highlighting indicates statistical significance

MW-1 used as background well

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

By: KBS
Date: 3/25/2010

Table 6
Halifax County Closed Landfill
MNA Parameter Summary
2/16-18/2010

Monitoring Location	SWSL or PQL	MW-2a	MW-2ad	MW-3a	MW-3d	MW-6d	MW-17	MW-18S	MW-18D
BOD, mg/l	2	**7.8**	ND	**15**	ND	ND	**3.4**	**2.6**	ND
COD, mg/l	10	**13**	**12**	**38**	**10**	**11**	ND	**13**	**11**
Nitrate Nitrogen as N, mg/l	10		ND	0.04 J	0.07 J	ND	0.13 J	ND	ND
Total Organic Carbon, mg/l	1	**1.86**	**1.04**	**7.5**	ND	**2.14**	ND	**5.8**	**1.09**
Total Alkalinity, mg/l	1	**128**	**284**	**435**	**63**	**269**	**59**	**116**	**76**
Chloride, mg/l	5	**5**	**6**	**19**	**9**	**23**	**7**	**5**	**10**
Sulfate, mg/l	250	ND	23 J		12.2 J	21.3 J	28.7 J	ND	9.9 J
Turbidity, NTU	1	**190**	**45**	**400**	**17**	**18**	**100**	**210**	**3.4**
Dissolved Oxygen, mg/l	---	**0.89**	**0.29**	**0.61**	**1.19**	**0.89**	**0.36**	**3.18**	**1.93**
Carbon Dioxide, mg/l	---	**292**	**200**	**768**	**123**	**421**	**75**	**82**	**55**
ORP, mv	---	**60.6**	**91.1**	**42.4**	**231.1**	**95.7**	**122.5**	**56.5**	**154.4**
N Ethane, ug/l	0.010	**0.091**	**0.12**	**0.8**	ND	**0.13**	ND	**0.018**	ND
N Ethene, ug/l	0.010	**0.029**	**1**	**0.12**	ND	ND	ND	**0.011**	ND
N Hydrogen, nM	0.600	ND	**1.1**	**0.87**	**0.67**	ND	ND	ND	ND
N Methane, ug/l	0.015	**1500**	**780**	**5700**	**3000**	**93**	**730**	**2900**	**88**
N Acetic Acid, mg/l	0.070	ND	ND	ND	ND	ND	ND	**0.079**	ND
N Lactic Acid, mg/l	0.100	ND	**0.11**	ND	ND	ND	ND	**0.23**	**0.19**
N Propionic Acid, mg/l	0.070	ND	ND	ND	ND	ND	ND	ND	ND

ND - Not detected at or above SWSL
SWSL - Solid Waste Section Quantitation Limits
J - Detected constituents below the SWSL limit.
All results in ug/L

Analysis provided by Environment 1, Inc and Microseeps Laboratories.

Appendix A

Boring Logs

FIELD BOREHOLE LOG

BOREHOLE NUMBER: MW-2A

PROJECT NUMBER HALIFAX-2
PROJECT NAME: HALIFAX COUNTY LANDFILL
LOCATION HALIFAX, NC
DRILLING COMPANY BORE & CORE
RIG TYPE & NUMBER MOBILE B-57 ATV
DRILLING METHOD HOLLOW STEM AUGER
WEATHER: HOT, HUMID
FIELD PARTY: BILL BROW
GEOLOGIST DAVID GARRETT
DATE BEGUN: 7/25/95 DATE COMPLETED: 7/26/95

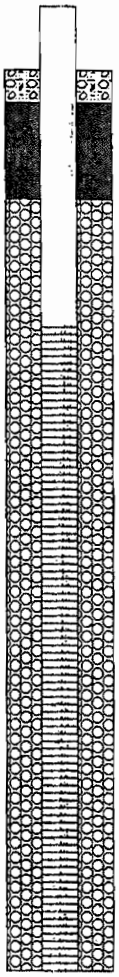
TOP OF CASING ELEVATION -
TOTAL DEPTH: 16.0
GROUND SURFACE ELEVATION -
SHEET 1 OF 1

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	7.3 FT	
Time	2:00 PM	
Date	7/25/95	

DEPTH	BLOW COUNTS	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	SAMPLE RECOVERY	DRILL METHOD	LITHOLOGY DESCRIPTION
0.0								SILTY SAND: Loose red-brown very silty clayey coarse-fine SAND; SM-ML; fill pad.
2.0				D				
3.0		Ss	S1					
4.0	2							
5.0	3							SILT: M. stiff black-gray fine sandy clayey SILT; wet; alluvium; ML.
6.0	3							
7.0	8	Ss	S2					
8.0	10							SAND: Loose light-gray and red-gray slightly silty-clayey fine-coarse SAND; alluvium; very clayey from 9.5' to 10.5'; fine rounded gravel from 10.5' to 12.5'; Water level at 7.3 ft; SW-SM; SC, CL, SW.
9.0	11							
10.0	10	Ss	S3	W				
11.0	7							
12.0	7							
13.0								SAND: V. dense brown clayey fine SAND w/ scattered coarse sand; SM-ML; residual soil; well developed upon completion by surging and overpumping.
14.0	26	Ss						
15.0	50/0	4"						
16.0								

LITHOLOGY

WELL INSTALLATION



FIELD BOREHOLE LOG

BOREHOLE NUMBER: MW-2od

PROJECT NUMBER: HALIFAX-14
PROJECT NAME: Halifax County Landfill
LOCATION: Aurelian Springs, North Carolina
DRILLING COMPANY: Engineering Tectonics, P.A.
RIG TYPE & NUMBER: MOBILE B-60
DRILLING METHOD: Hollow Stem Auger
WEATHER: Cloudy, 70 degrees
FIELD PARTY: David Barron
GEOLOGIST: Philip May
DATE BEGUN: 9/1/99 DATE COMPLETED: 9/1/99

TOP OF CASING ELEVATION: TBD
TOTAL DEPTH: 40.0 FT
GROUND SURFACE ELEVATION: TBD
SHEET 1 OF 1

STATIC WATER LEVEL (BLS)		
WD-While Drilling		AB-After Boring
Depth(ft)	6.0'	5.25'
Time	12:00	9:00
Date:	9/1/99	9/2/99

DEPTH	BLOW COUNTS	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	SAMPLE RECOVERY	DRILL METHOD	LITHOLOGY DESCRIPTION	DEPTH	LITHOLOGY	WELL INSTALLATION
10.0	5 5 6	Ss	61	W		10"		CLAYEY SILTY SAND: Grey clayey silty sand, wet, Fe staining and quartz gravel.	10.0		
15.0	15 29 34	Ss	62	W		12"		SILTY SAND: Mottled white, tan-pink, grey & rust M-C slightly silty sand, moist, relict rock, quartz, some mica.	15.0		
20.0	50/4	Ss	63	W		2"		PWR: Wet C sand, partially weathered rock, tan-pink gravel w/ white, brown, & grey mottling, micaceous;	20.0		
25.0	50/3	Ss	64	W		1"		25.0' same as above;	25.0		
30.0	50/4	Ss	65	W		2"		30.0' same as above;	30.0		
35.0	50/2	Ss	66	W		0"		35.0' same as above;	35.0		
40.0								40.0' Boring terminated at 40'.	40.0		

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section
P.O. Box 29578 - Raleigh, N.C. 27626-0578-Phone (919) 733-3221

WELL CONSTRUCTION RECORD

Well ID: MW-2ad

DRILLING CONTRACTOR: Engineering Tectonics, P.A.
DRILLER REGISTRATION #: 835
STATE WELL CONSTRUCTION PERMIT#:

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use:

2. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Aurelian Springs County: Halifax
Liles Road
(Road, Community, or Subdivision and Lot No.)

3. OWNER Halifax County
ADDRESS
(Street or Route No.)
Halifax NC
City or Town State Zip Code

4. DATE DRILLED 9/1/99
5. TOTAL DEPTH 40.0
6. CUTTINGS COLLECTED YES ☐ NO ☒
7. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
8. STATIC WATER LEVEL Below Top of Casing: 5.26 FT.
(Use + if Above Top of Casing)
9. TOP OF CASING IS 2.5 FT. Above Land Surface *
* Casing Terminated at/or below land surface is illegal unless a variance is issued in accordance with 15A NCAC 2C .01 18
10. YIELD(gpm): _____ METHOD OF TEST
11. WATER ZONES (depth):
12. CHLORINATION: Type _____ Amount _____

DEPTH From	DEPTH To	DRILLING LOG Formation Description
See attached boring log		

If additional space is needed use back of form

13. CASING:

	Depth			Diameter	Wall Thickness or Weight/Ft	Material
From	2.0	TO 30.0	Ft.	2"		PVC
From		TO	Ft.			
From		TO	Ft.			

14. GROUT:

	Depth			Material	Method
From	0	TO 26.0	Ft.	Portland cement	Tremie
From	26.0	To 28.0	Ft.	Bentonite	

15. SCREEN:

	Depth			Diameter		Slot Size		Material
From	30.0	TO 40.0	Ft	2	in.	10	in.	PVC
From		To	Ft.		in.		in.	
From		TO	Ft		in.		in.	

16. SAND/GRAVEL PACK:

	Depth			Size	Material
From	28.0	To 40.0	Ft.	No. 2 Filter Sand	
From		To	Ft.		

17. REMARKS:

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

FOR OFFICE USE ONLY
Quad No:

SIGNATURE OF CONTRACTOR OR AGENT DATE

Submitted to Division of Water Quality and copy to well owner.

FIELD BOREHOLE LOG

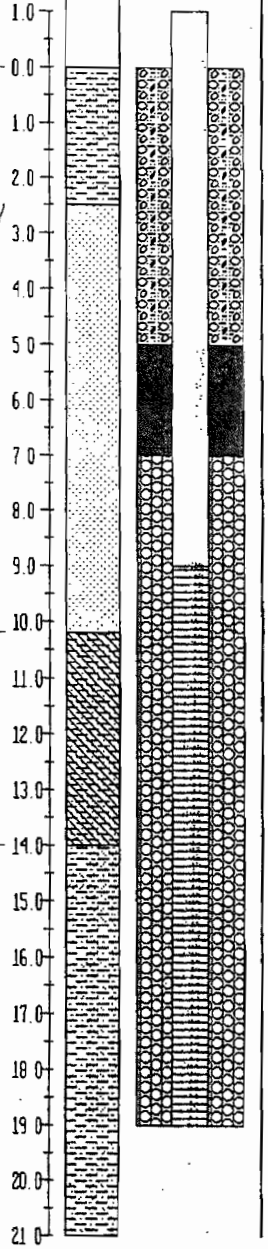
BOREHOLE NUMBER MW-3A-S

PROJECT NUMBER HALIFAX-2
PROJECT NAME HALIFAX COUNTY LANDFILL
LOCATION HALIFAX, NC
DRILLING COMPANY BORE & CORE
RIG TYPE & NUMBER MOBILE B-57 ATV
DRILLING METHOD HOLLOW STEM AUGER
WEATHER HOT, HUMID
FIELD PARTY BILL BROW
GEOLOGIST DAVID GARRETT
DATE BEGUN 7/25/95 DATE COMPLETED 7/25/95

TOP OF CASING ELEVATION -
TOTAL DEPTH 21
GROUND SURFACE ELEVATION -
SHEET 1 OF 1

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	6.0 FT	
Time	3:45PM	
Date	7/25/95	

DEPTH	BLOW COUNTS	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	SAMPLE RECOVERY	DRILL METHOD	LITHOLOGY DESCRIPTION
0.0								
1.0								
2.0				D				SILTY SAND: Loose brwon-gray dry silty fine SAND w/ scattered roots, sticks, and inert debris on surface; SM.
3.0	2	Ss	S1					
4.0	1							SAND: Soft, dark brown wet clayey silty fine SAND w/ small sticks, rounded pebbles; alluvium; CL/ML.
5.0	1							
6.0								
7.0								
8.0								
9.0								
10.0	4	Ss	S2	W				
11.0	4							
12.0	6							CLAYEY SILT: Stiff orange-yellow clayey SILT w/ coarse sand, scattered mica; relict rock texture; residual soil; ML; saturated below 11'.
13.0								
14.0								
15.0	6	Ss	S3					
16.0	6							
17.0	7							SILTY SAND: Orange-white mottled silty fine-coarse SAND, trace clay, mica; residual soil, weathered granite; SM.
18.0								
19.0								
20.0	8	Ss	S4					
21.0	9							
	13							



N. C. Department of Human Resources
Division of Health Services

MW 6S

WELL COMPLETION RECORD

MPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C
EPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH
P. O. BOX 2091, RALEIGH, N.C. 27602

SOLID WASTE SECTION
JAN 27 199?

NAME OF SITE: Halifax County Landfill	PERMIT NO.: 41-0176-WM-0033
ADDRESS: S.R. 1417 Aurelian Springs, N.C.	OWNER (print): Halifax County
DRILLING CONTRACTOR: Bore and Core, Inc.	REGISTRATION NO.: 763

Casing Type:	PVC	dia.	2	in.	Grout Depth:	from 0	to -6'	ft. - dia.	7 in
Casing Depth:	from 2'	to -8'8	ft. - dia.	2	in.	Bentonite Seal:	from -6	to -7'	ft. - dia.	7 in
Screen Type:	010 slotted PVC	dia.	2	in.	Sand/Gravel PK:	from -7	to -23	ft. - dia.	7 in
Screen Depth:	from -8'8	to -23'	ft. - dia.	2	in.	Total Well Depth:	from 3	to -23'	ft. - dia.	7 in

Static Water Level: 11'4" below ground surface ~~feet from top of casing~~ Date Measured 1 / 6 / 92

Yield (gpm): _____ Method of Testing: _____ Casing is _____ feet above land surface

DRILLING LOG

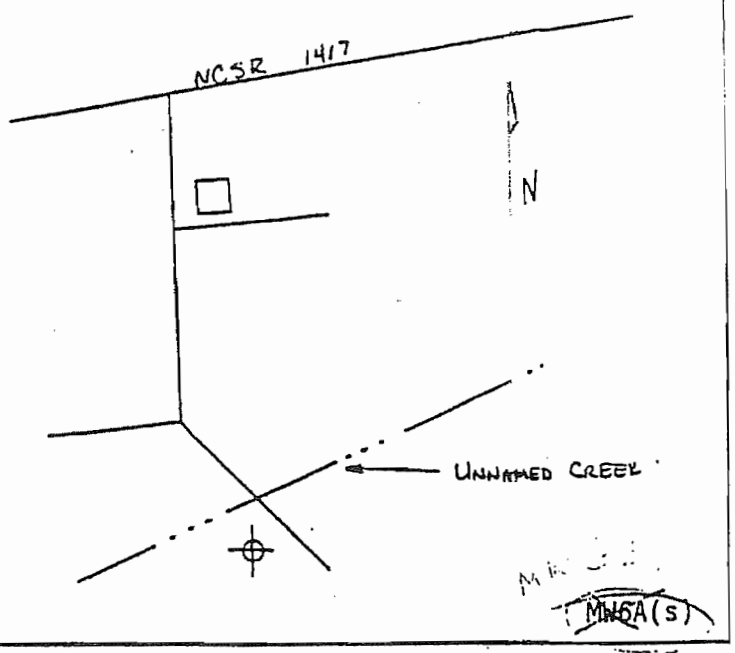
DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
0.0	8.4	Brown fine sandy silt
8.4	23.0	Wet, brown, silty fine to medium sand

Well numbering scheme changed on 12-13-93 to match scheme used during past sampling episodes.

LK

LOCATION SKETCH

(show distance to numbered roads, or other map reference points)



DATE: 1/6/92 SIGNATURE: John D Barnard

GW 3342 (6/85)

MW6S

MW-7

TEST BORING FIELD REPORT

Name Halifax County Landfill Aurelian Springs, N.C. Job No. 3720

ield Supervisor Tony Crew Ken Hrs. Drilling Hrs. Moving ~~MW6A(S)~~ Boring # _

a e 1/6/92 Weather Cool Ground Surface Elevation _____

c...	Soil Strata To	Soil Description and Remarks	Sampling/Blows per F No.	Depth	1st 6"	2nd 6"	3r
.0	8.4	Brown fine sandy silt					
..	23.0	Wet brown silty fine to medium sand/gravel B.T. 23.0'					
		Set 2"x 15' screen at 23.0 with 10' riser 4 bags sand					
		½ bucket bentonite, grout to top, 1 2" locking cap 1 4"x 5'					
		protective casing					

Level 11'4" at TOR

Level _____ at _____

t Level _____ at 24 Hours

t r Losses _____

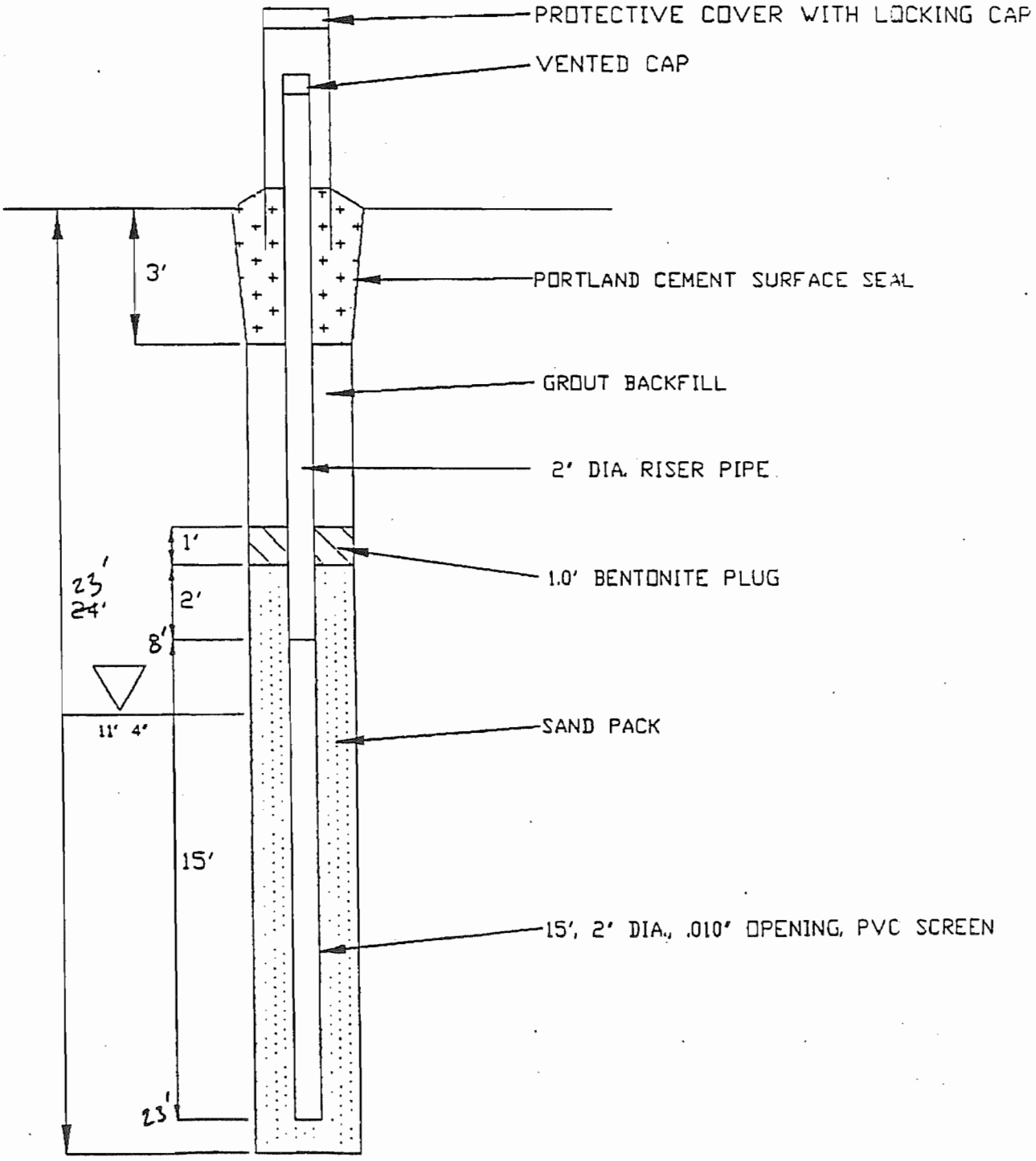
sing, Size Length _____

Note: (Record Methods of Drilling & Depths)

CME 450 ATV
4¼" I.D. H.S.A.
0.0' - 23.0'

TYPICAL MONITORING WELL SCHEMATIC

PROJECT HALIFAX COUNTY LANDFILL VERTICAL EXPANSION
WELL NUMBER MW-6a(s)



WELL COMPLETION RECORD

MW-6A MW-6d

TE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. MENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, 91, RALEIGH, N.C. 27602

OF SITE:	PERMIT NO.:
Halifax County Sanitary Landfill	41-0176-WM-0033
ES:	OWNER (print):
R. 1417 Aurelian Springs, N.C.	Halifax County
LING CONTRACTOR:	REGISTRATION NO.:
ore & Core, Inc.	763

Type:	PVC	dia.	2	in.	Grout Depth:	from 0'	to -21'	ft. - dia.	4 in.
Depth:	from 2'	to -25	ft. - dia.	2 in.	Bentonite Seal:	from -21'	to -23	ft. - dia.	4 in.
Type:	slotted .010	dia.	2	in.	Sand/Gravel PK:	from -23	to -40	ft. - dia.	4 in.
Depth:	from -25	to -40	ft. - dia.	2 in.	Total Well Depth:	from 2'	to -41	ft. - dia.	4 in.

Water Level: 11' 7" Below ground surface ~~feet from top of casing~~ Date Measured 11 / 26 / 91

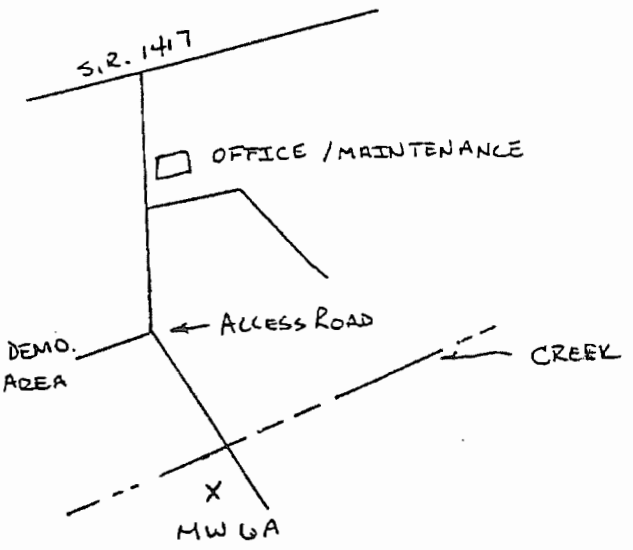
(if m): _____ Method of Testing: _____ Casing is _____ feet above land surface

DRILLING LOG

DEPTH FROM	TO	FORMATION DESCRIPTION
	2.8	Brown fine sandy silt
	10.6	Brown medium to fine silt
C 6	22.4	Damp DrkBr.Med. sandy silt
2.4	40.0	Wet Br. fine sandy silt

LOCATION SKETCH

(show distance to numbered roads, or other map reference points)



REMARKS: Well screened too deep.
Static water level is above the screen.

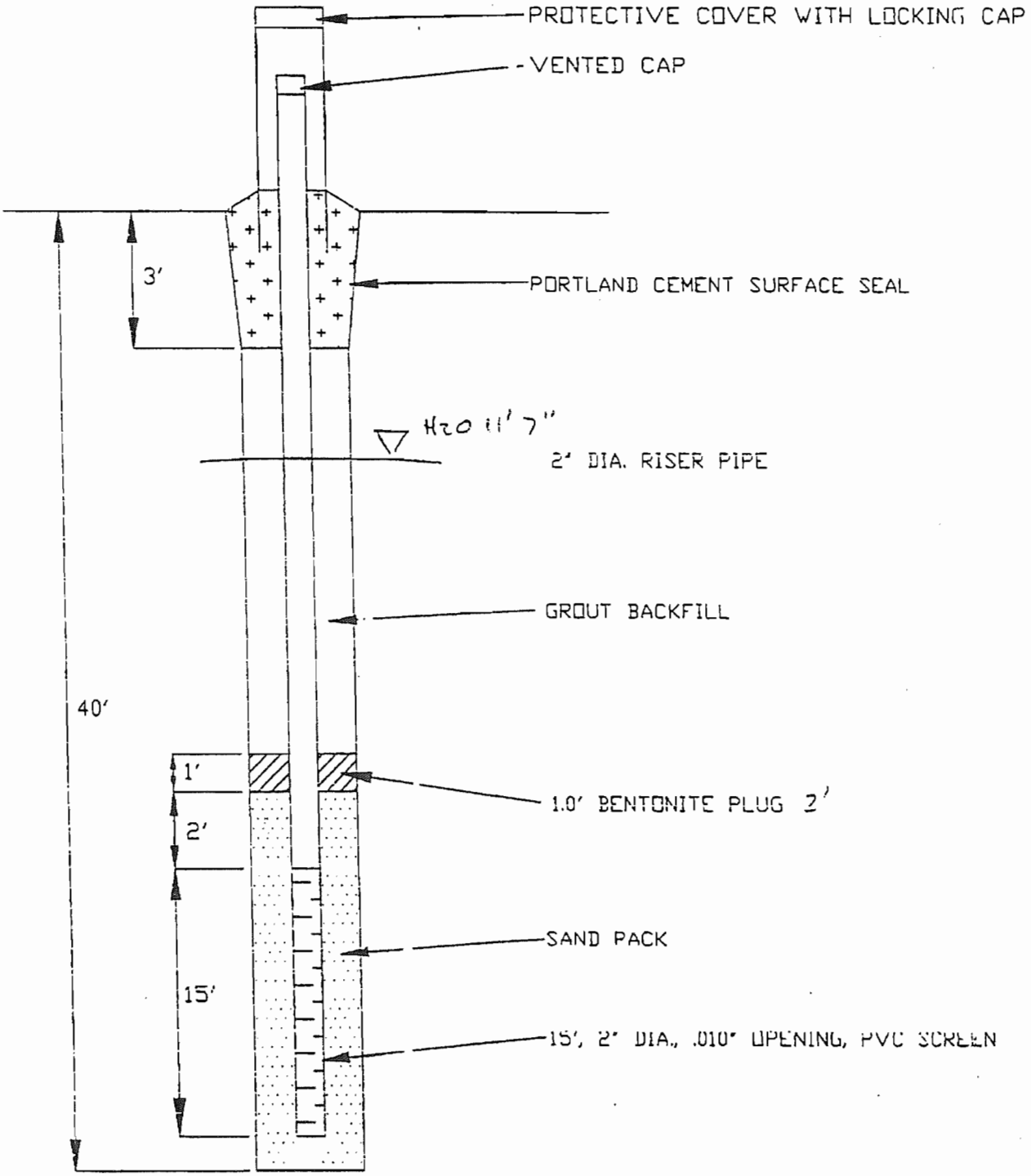
_____ SIGNATURE: _____

3342 (6/85)
& Hazardous Waste Management Branch

TYPICAL MONITORING WELL SCHEMATIC

PROJECT HALIFAX COUNTY LANDFILL VERTICAL EXPANSION
WELL NUMBER MW-6A

6d



TEST BORING FIELD REPORT

MW6d

Name Halifax County Landfill Vertical Expansion Job No. _____

Supervisor Tony Crew Ben Hrs. Drilling ___ Hrs. Moving ___ Boring # MW6

a e 10/30/91 Weather _____ Ground Surface Elevation _____

Soil Strata			Sampling/Blows per Ft.				
o	To	Soil Description and Remarks	No.	Depth	1st6"	2nd6"	3rd6"
.0	2.8	Brown fine sandy silt w/rocks					
.8	10.6	Brown medium to fine sandy silt					
.f	22.4	Damp dark brown medium sandy silt					
.4	40.0	Wet brown fine sandy silt					
		B.T. 40.0					
		Set 2"x15' PVC screen at 40.0 with 30' PVC riser 4 bags					
		sand, ½ bucket bentonite 1 2" locking cap, 1 4"x5'					
		protective casing					

ter Level _____ at TOB

er Level _____ at _____

er Level _____ at 24 Hours

Losses _____

sing, Size _____ Length _____

Note: (Record Methods of Drilling & Depths)

CME 450 ATV
4¼" ID hollow stem auger
0.0 - 40.0

N. C. Department of Human Resources
Division of Health Services

MW 7S

WELL COMPLETION RECORD

)MPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C
EPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH
P. O. BOX 2091, RALEIGH, N.C. 27602

NAME OF SITE:	PERMIT NO.:
Halifax County Landfill	41-0176-WW-0033
ADDRESS:	OWNER (print):
S.R. 141/ Aurelian Springs, NC	Halifax County
DRILLING CONTRACTOR:	REGISTRATION NO.:
Bore and Core, Inc.	763

Casing Type: PVC dia. 2 in.
Casing Depth: from 2.5 to -2.5 ft. - dia. 2 in.
Screen Type: .010 slotted PVC dia. 2 in.
Screen Depth: from -2.5 to -17.5 ft. - dia. 2 in.

Grout Depth: from 0 to -1 ft. - dia. 7 in
Bentonite Seal: from -1 to -2 ft. - dia. 7 in
Sand/Gravel PK: from -2 to -17 ft. - dia. 7 in
Total Well Depth: from 2.5 to -17.5 ft. - dia. 7 in

Static Water Level: 3'2" below ground surface ~~feet from top of casing~~

Thin sand pack between bentonite + screen.

Date Measured 1 / 7 / 92

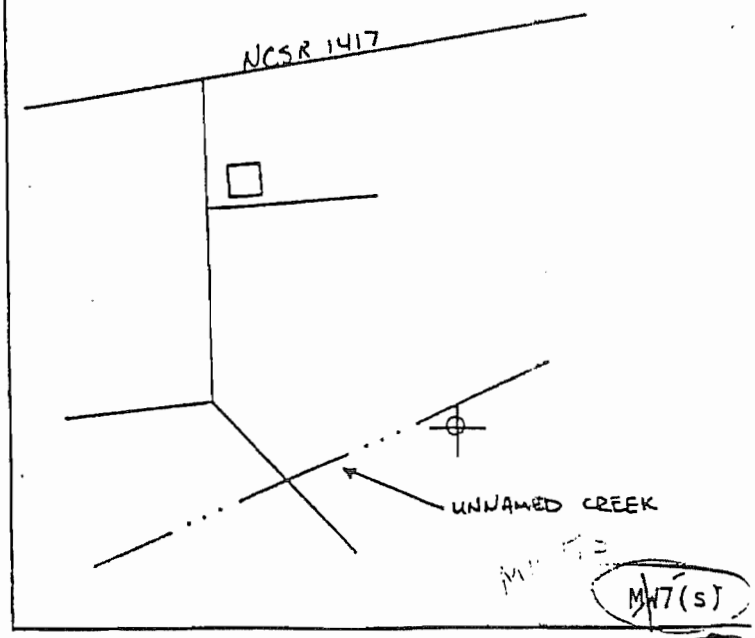
Yield (gpm): _____ Method of Testing: _____ Casing is _____ feet above land surface

DRILLING LOG

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
.0	3.4	Brown fine to medium sandy silt
.4	17.0	Damp brown fine to medium sand/gravel

LOCATION SKETCH

(show distance to numbered roads, or other map reference points)



REMARKS: _____

DATE: 1-7-92 SIGNATURE: John O Barnard

MW 15

TEST BORING FIELD REPORT

Name Halifax County Landfill - Aurelian Springs, N.C. Job No. 3720

Field Supervisor Tony Crew Ken Hrs. Drilling Hrs. Moving Boring # MW-15

Date 1-7-92 Weather Cool Ground Surface Elevation

From	To	Soil Strata: Soil Description and Remarks	Sampling/Blows per: No.	Depth	1st 6"	2nd 6"	?
0.0	3.4	Brown fine to medium sandy silt					
3.4	17.0	Damp brown fine to medium sand/gravel B.T. 17.0					
		Set 2"x 15' screen at 17.5' with 5.0' riser 4 bags					
		sand, ½ bucket bentonite, grout to top. 1, 2" locking cap					
		1, 4"x 5' protective casing.					

Water Level 3'2" at TOR

Water Level _____ at _____

Water Level _____ at 24 Hours

Water Losses _____

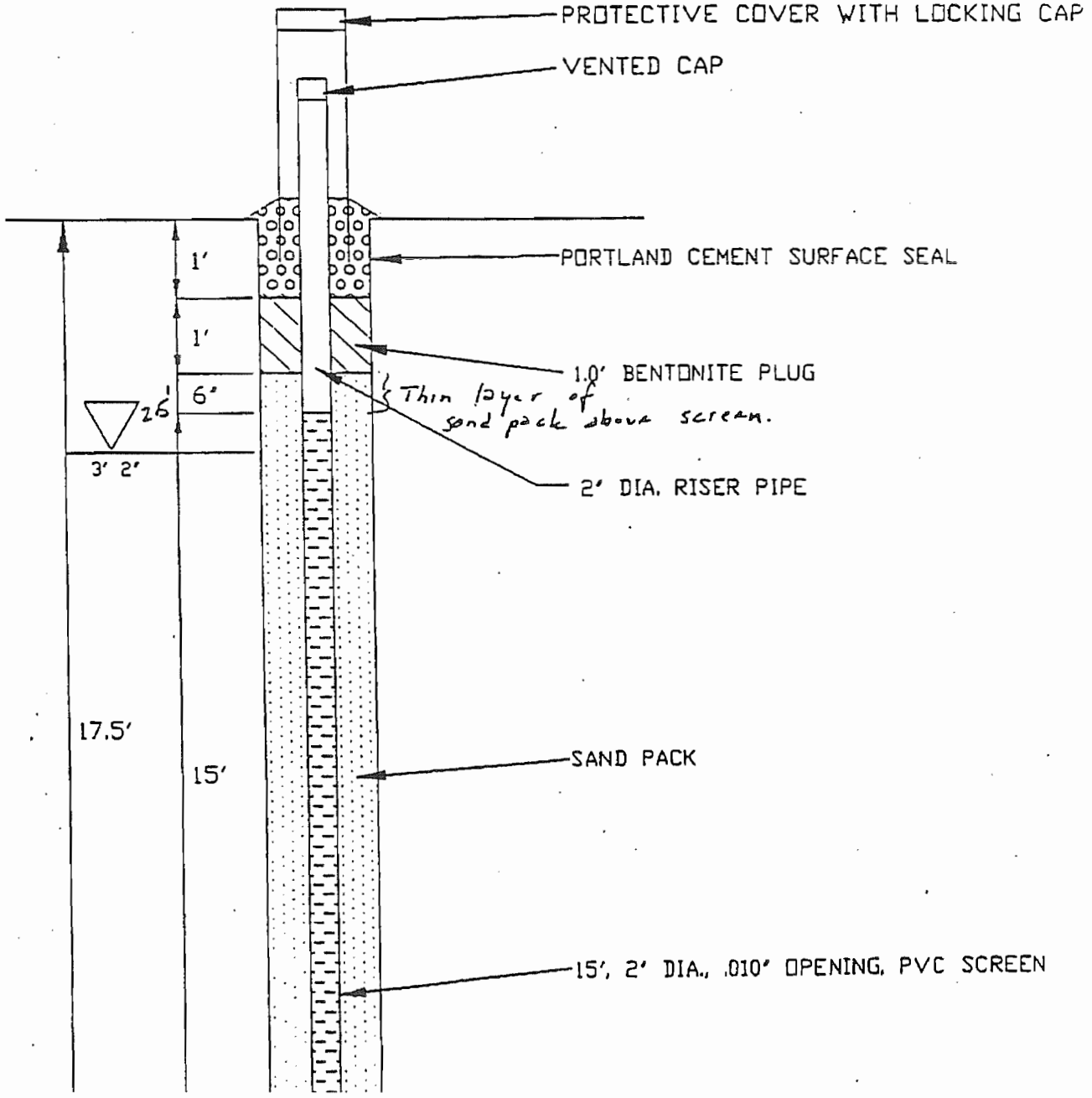
Casing, Size _____ Length _____

Note: (Record Methods of Drilling & Depths)

CME 450 ATV
4¼" I.D. H.S.A.
0.0' - 17.0'

TYPICAL MONITORING WELL SCHEMATIC

PROJECT HALIFAX COUNTY LANDFILL VERTICAL EXPANSION
WELL NUMBER MW-7(S)



WELL COMPLETION RECORD

MW-7 MW-7d

'I ETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. 'MENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, 091, RALEIGH, N.C. 27602

.C. SITE: ifax County Sanitary Landfill	PERMIT NO.: 41-0176-WM-0033
.E S: .. 1417 Aurelian Springs, N.C.	OWNER (print): Halifax County
.I G CONTRACTOR: e & Core, Inc.	REGISTRATION NO.: 763

ype:	PVC dia. 2 in.	Grout Depth:	from 0 to -21' ft. - dia. 4" in.
epth:	from 2 to -25 ft. - dia. 2 in.	Bentonite Seal:	from -21' to -23' ft. - dia. 4" in.
Type:	slotted PVC .010 dia. 2 in.	Sand/Gravel PK:	from -23' to 40' ft. - dia. 4" in.
Depth:	from -25 to -40 ft. - dia. 2 in.	Total Well Depth:	from 2' to -40' ft. - dia. 4" in.

W. ater Level: 3' 11" Below ground surface feet from top of casing Date Measured 11 / 26 / 91

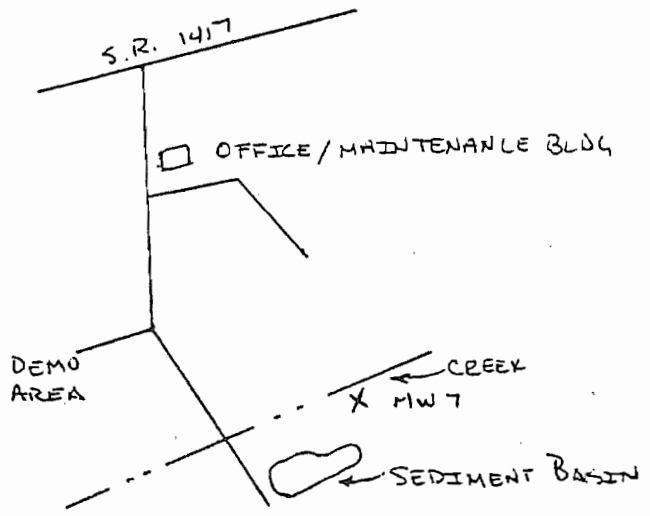
(g m): _____ Method of Testing: _____ Casing is _____ feet above land surface

DRILLING LOG

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
	1.4	Brown fine sandy silt
4	6.7	Brown fine sandy silt
.7	14.3	Damp DrkBr. fine very sandy silt.
4 ?	40.0	Wet Brown medium sandy silt/gravel

LOCATION SKETCH

(show distance to numbered roads, or other map reference points)



RKS: Well screened too deep.
Static water table is above the screen.

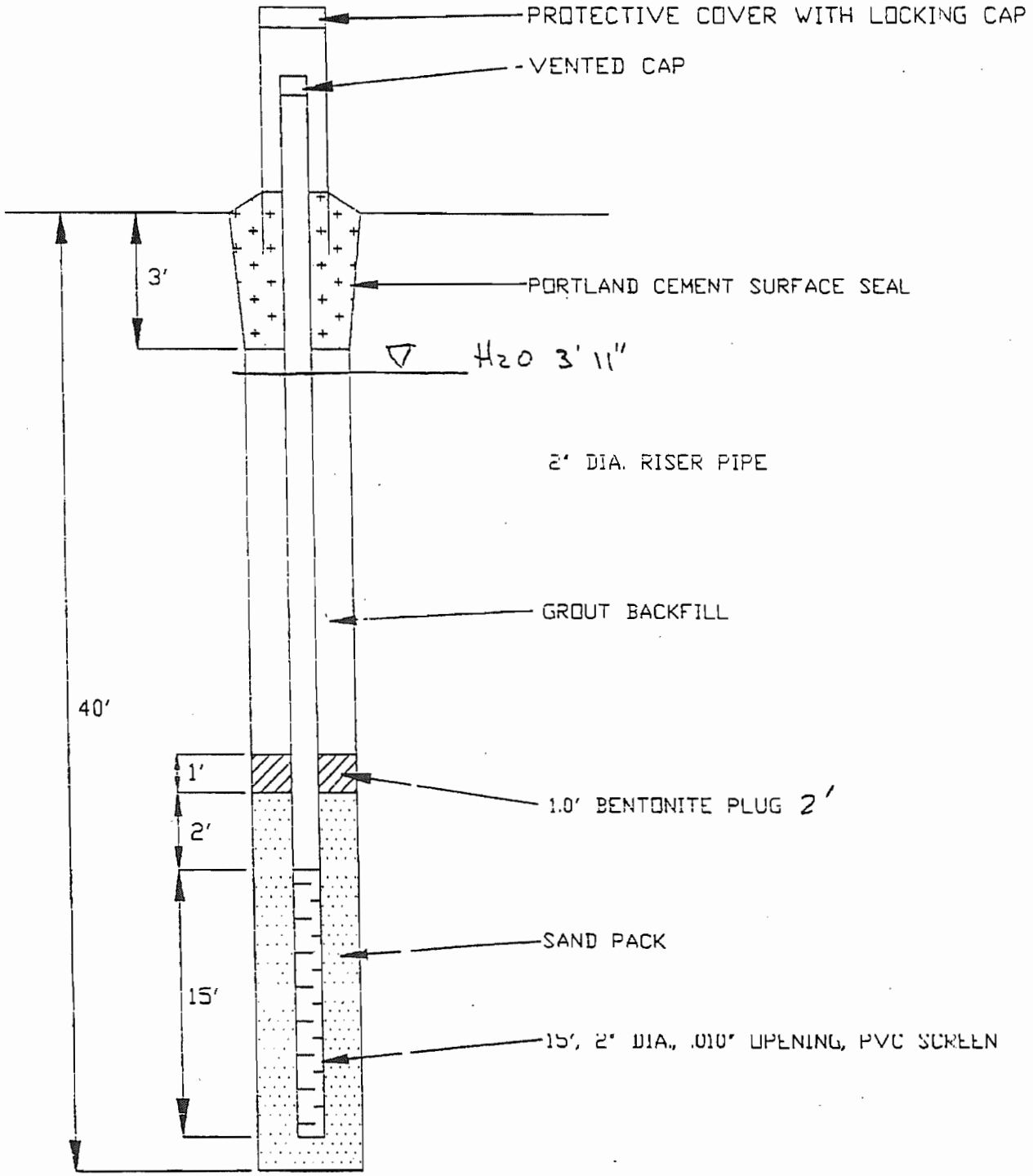
_____ SIGNATURE: _____

3342 (6/85)
& Hazardous Waste Management Branch

TYPICAL MONITORING WELL SCHEMATIC

PROJECT HALIFAX COUNTY LANDFILL VERTICAL EXPANSION
WELL NUMBER MW-7

7d



TEST BORING FIELD REPORT

MW7d

Name Halifax County Landfill Vertical Expansion Job No. _____

Supervisor Tony Crew Ben Hrs. Drilling ___ Hrs. Moving ___ Boring # MW7

Date 10/31/91 Weather _____ Ground Surface Elevation _____

Soil Strata			Sampling/Blows per Ft				
From	To	Soil Description and Remarks	No.	Depth	1st 6"	2nd 6"	3rd 6"
.?	1.4	Brown fine sandy silt with roots					
.4	6.7	Brown fine sandy silt					
.	14.3	Damp dark brown fine very sandy silt					
.3	40.0	Wet brown medium sandy silt with gravel B.T. 40.0					
		Set 2" PVC screen (15') at 40.0 with 30' PVC riser 4 bags					
		sand, ½ bucket Bentonite 1 2" locking cap, 1 4"x5'					
		protective casing					

ater Level _____ at TOB

er Level _____ at _____

Level _____ at 24 Hours

Losses _____

asing, Size _____ Length _____

Note: (Record Methods of Drilling & Depths)

CME 450 ATV
4¼" ID hollow stem auger
0.0 - 40.0

FIELD BOREHOLE LOG

BOREHOLE NUMBER: MW-15R

PROJECT NUMBER: HALIFAX-14
PROJECT NAME: Halifax County Landfill
LOCATION: Aurelian Springs, North Carolina
DRILLING COMPANY: Engineering Testerics, P.A.
RIG TYPE & NUMBER: MOBILE B-60
DRILLING METHOD: Hollow Stem Auger
WEATHER: Cloudy, 70 degrees
FIELD PARTY: David Barron
GEOLOGIST: Phillip May
DATE BEGUN: 8/31/99 DATE COMPLETED: 8/31/99

TOP OF CASING ELEVATION TBD
TOTAL DEPTH 43.0 FT
GROUND SURFACE ELEVATION: TBD
SHEET: 1 OF: 1

STATIC WATER LEVEL (BLS) WD=While Drilling AB=After Boring		
Depth(Ft)	31.5'	31.55'
Time	2:00	12:00
Date:	8/31/99	9/1/99

DEPTH	BLOW COUNTS	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	SAMPLE RECOVERY	DRILL METHOD	LITHOLOGY DESCRIPTION
0.0								SANDY CLAYEY SILT: Slightly moist rust-brown F sandy clayey silt, mottled (20%) w/ grey clay & some gravel, lower 1" moist white F sandy silt w/ rust mottling, some Mn & quartz throughout.
5.0	5 6 8	Ss	s1	SM		8"		
10.0	6 10 15	Ss	s2	SM		12"		CLAYEY SILTY SAND: Slightly moist tan-pink clayey silty F sand w/ grey, white, yellow, & rust mottles (50%);
15.0	9 12 13	Ss	s3	SM		12"		15.0' same as above, grading into rust orange matrix w/ other mottles, some mica & quartz.
20.0	10 14 17	Ss	s4	M		12"		SANDY CLAYEY SILT: Moist M-C sandy clayey silt, mottled tan-pink, grey-black, white, & rust, quartz gravel;
25.0	8 11 15	Ss	s5	M		6"		25.0' Moist M-C sandy clayey silt, grey-tan-pink, brown-black, grey-tan, & white mottles, quartz, Feldspar, Mn, Mica;
30.0	9 17 25	Ss	s6	M		8"		30.0' same as above;
35.0	20 29 11	Ss	s7	W		12"		35.0' same as above, very moist;
43.0	11 20 33	Ss	s8	W		14"		43.0' same as above, wet, boring terminated at 43.0'.

LITHOLOGY

WELL INSTALLATION

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section
P.O. Box 29578 - Raleigh, N.C. 27626-0578-Phone (919) 733-3221

WELL CONSTRUCTION RECORD

Well ID: MW-15r

DRILLING CONTRACTOR: Engineering Tectonics, P.A.
DRILLER REGISTRATION #: 835
STATE WELL CONSTRUCTION PERMIT#: _____

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Aurelian Springs County: Halifax
Liles Road
(Road, Community, or Subdivision and Lot No.)

3. OWNER Halifax County
ADDRESS _____
(Street or Route No.)
Halifax NC
City or Town State Zip Code

4. DATE DRILLED 8/31/99
5. TOTAL DEPTH 43.0
6. CUTTINGS COLLECTED YES ☐ NO ☒
7. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
8. STATIC WATER LEVEL Below Top of Casing: 31.55 FT
(Use + if Above Top of Casing)
9. TOP OF CASING IS 2.5 FT. Above Land Surface *
* Casing Terminated at/or below land surface is illegal unless a variance is issued in accordance with 15A NCAC 2C .01 18
10. YIELD(gpm): _____ METHOD OF TEST _____
11. WATER ZONES (depth): _____
12. CHLORINATION: Type _____ Amount _____
13. CASING:

	Depth			Diameter	Wall Thickness or Weight/Ft	Material
From	2.0	TO 33.0	Ft.	2"		PVC
From		TO	Ft.			
From		TO	Ft.			

14. GROUT:

	Depth			Material	Method
From	0	TO 29.0	Ft.	Portland cement	Tremie
From	29.0	To 31.0	Ft.	Bentonite	

15. SCREEN:

	Depth			Diameter	Slot Size	Material
From	33.0	TO 43.0	Ft	2 in.	10 in.	PVC
From		To	Ft.	in.	in.	
From		TO	Ft	in.	in.	

16. SAND/GRAVEL PACK:

	Depth			Size	Material
From	31.0	To 43.0	Ft.	No. 2 Filter Sand	
From		To	Ft.		

17. REMARKS: _____

DEPTH From	DEPTH To	DRILLING LOG Formation Description
See attached boring log		

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

FOR OFFICE USE ONLY
Quad No: _____

SIGNATURE OF CONTRACTOR OR AGENT DATE

Submit original to Division of Water Quality and copy to well owner.

FIELD BOREHOLE LOG

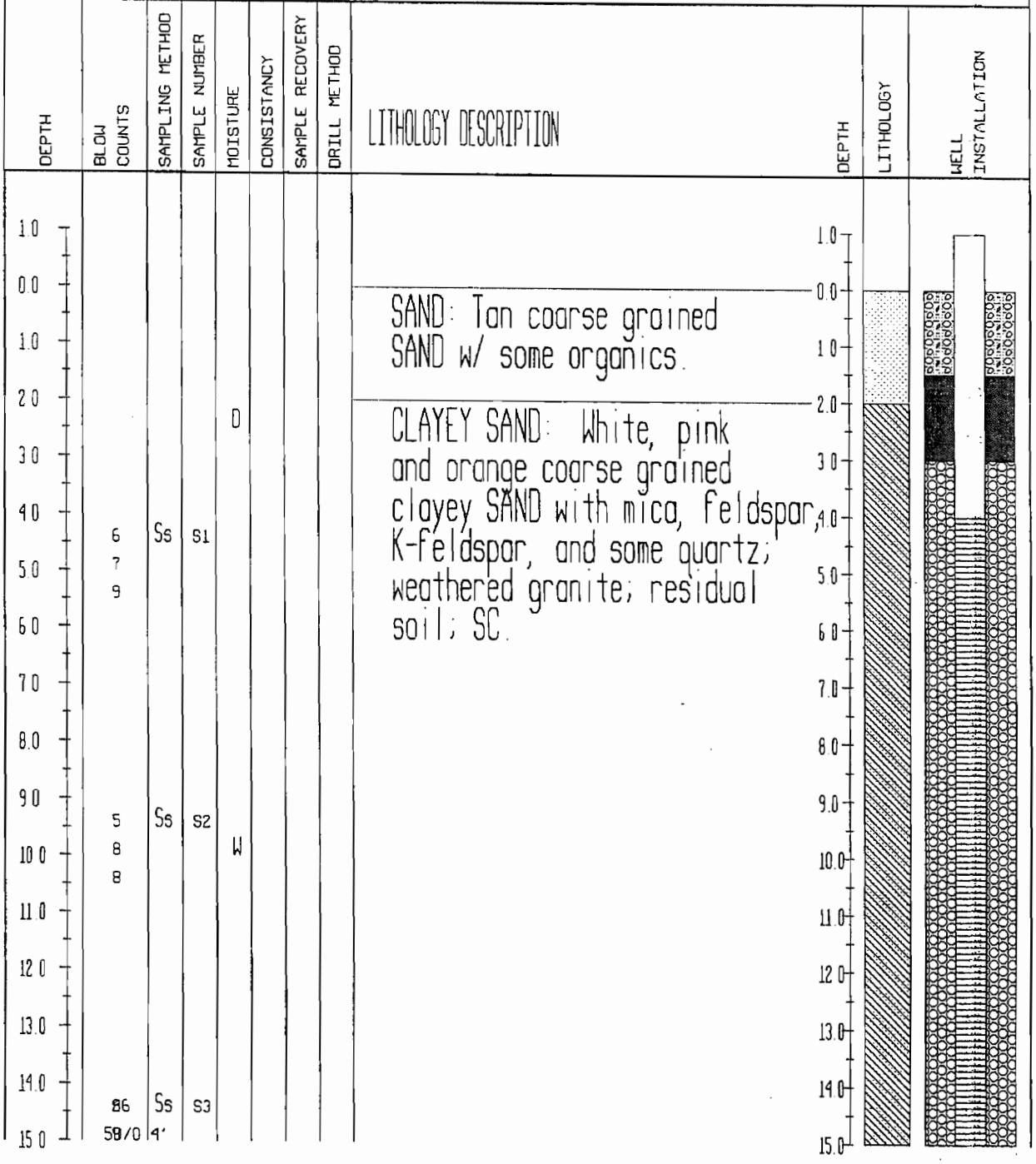
BOREHOLE NUMBER
MW-16A

PROJECT NUMBER HALIFAX-2
PROJECT NAME HALIFAX COUNTY LANDFILL
LOCATION HALIFAX, NC
DRILLING COMPANY BORE & CORE
RIG TYPE & NUMBER MOBILE B-57 ATV
DRILLING METHOD HOLLOW STEM AUGER
WEATHER HOT, HUMID
FIELD PARTY BILL BROW
GEOLOGIST GREG MILLS
DATE BEGUN 7/26/95 DATE COMPLETED 7/26/95

TOP OF CASING ELEVATION -
TOTAL DEPTH 16.0
GROUND SURFACE ELEVATION -
SHEET 1 OF 1

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(Ft)	7.2 FT	
Time	3:00 PM	
Date	7/26/95	

DEPTH	BLOW COUNTS	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	SAMPLE RECOVERY	DRILL METHOD	LITHOLOGY DESCRIPTION
0.0								SAND: Tan coarse grained SAND w/ some organics.
2.0				D				CLAYEY SAND: White, pink and orange coarse grained clayey SAND with mica, feldspar, K-feldspar, and some quartz; weathered granite; residual soil; SC.
4.0	6 7 9	Ss	S1					
9.0	5 8 8	Ss	S2	W				
14.0	86 50/0	Ss	S3					



Richardson Smith Gardner and Assoc
14 North Boylan Avenue, Raleigh NC 27603
(919) 828-0577

FIELD BOREHOLE LOG

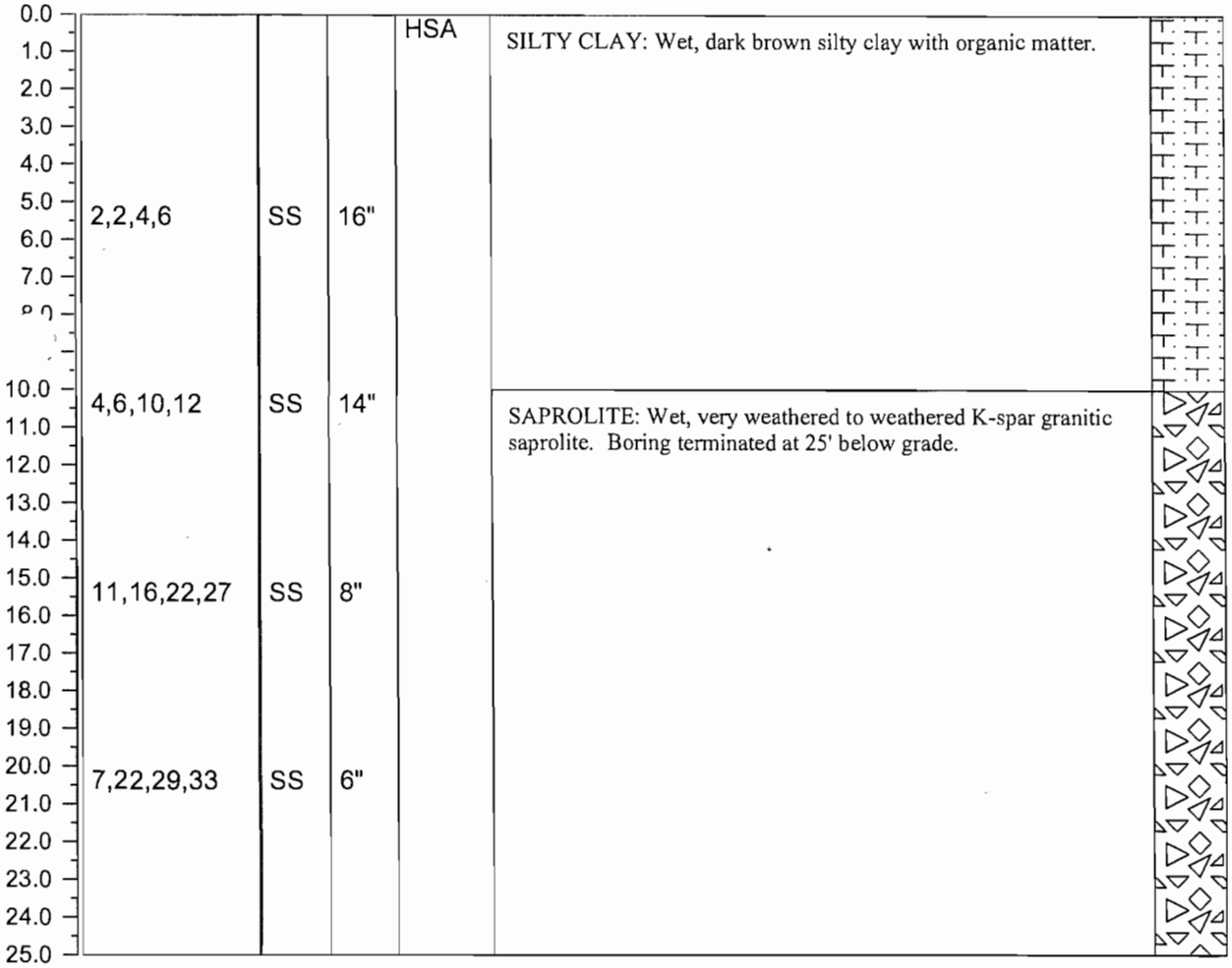
BOREHOLE NUMBER **MW-17** Page 1 of 1

PROJECT NAME: **Halifax Landfill**
OCATION: **Halifax Co.**
DRILLING CO: **McCall Bros.**
DRILLING METHOD: **HSA**
FIELD PARTY: **Ken McDonald**
GEOLOGIST: **J. Smyth**
DATE BEGUN: **10/03/07** DATE COMPLETED: **10/03/07**

TOTAL DEPTH: **25**
GROUND SURFACE ELEVATION:
TOP OF CASING ELEVATION:

STATIC WATER LEVEL (TOC)		
Depth (ft)		
Time		
Date		

DEPTH	BLOW COUNT	SAMPLING METHOD	RECOVERY	DRILL METHOD	DESCRIPTION	LITHOLOGY	DEPTH	WELL INSTALLATION
0.0				HSA	SILTY CLAY: Wet, dark brown silty clay with organic matter.		0.0	
5.0	2,2,4,6	SS	16"				5.0	
10.0	4,6,10,12	SS	14"		SAPROLITE: Wet, very weathered to weathered K-spar granitic saprolite. Boring terminated at 25' below grade.		10.0	
15.0	11,16,22,27	SS	8"				15.0	
20.0	7,22,29,33	SS	6"				20.0	
25.0							25.0	



Richardson Smith Gardner and Assoc
14 North Boylan Avenue, Raleigh NC 27603
(919) 828-0577

FIELD BOREHOLE LOG

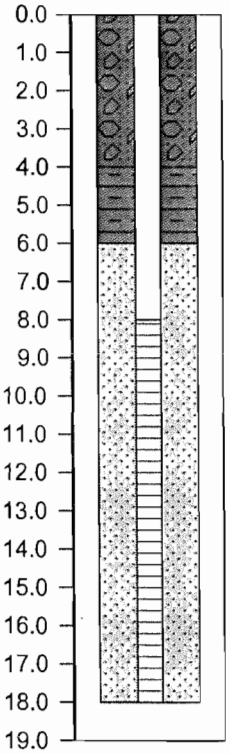
BOREHOLE NUMBER **MW-18s** Page 1 of 1

PROJECT NAME: **Halifax Landfill**
LOCATION: **Halifax Co.**
DRILLING CO: **McCall Bros.**
DRILLING METHOD: **HSA**
FIELD PARTY: **Ken McDonald**
GEOLOGIST: **J. Smyth**
DATE BEGUN: **10/16/07** DATE COMPLETED: **10/16/07**

TOTAL DEPTH: 19
GROUND SURFACE ELEVATION:
TOP OF CASING ELEVATION:

STATIC WATER LEVEL (TOC)		
Depth (ft)		
Time		
Date		

DEPTH	BLOW COUNT	SAMPLING METHOD	RECOVERY	DRILL METHOD	DESCRIPTION	LITHOLOGY
0.0				HSA	SILTY CLAY: Moist to Wet gray green silty clay	
5.0	2,2,1,2	SS	6"			
10.0	3,2,3,11	SS	8"		CLAYEY SILTY SAND: Wet, dark gray, clayey silty sand with some partially weathered rock.	
15.0	18,26,27,26	SS	12"		SAPROLITE: Wet weathered potassium feldspar granite saprolite. Auger Refusal at 19 feet. Running sands backfilled hole to 18' where well was then set.	
19.0						



Richardson Smith Gardner and Assoc
14 North Boylan Avenue, Raleigh NC 27603
(919) 828-0577

FIELD BOREHOLE LOG

BOREHOLE NUMBER **MW-18d**

PROJECT NAME: **Halifax Landfill**
LOCATION: **Halifax Co.**
DRILLING CO: **McCall Bros.**
DRILLING METHOD: **HSA**
FIELD PARTY: **Ken McDonald**
GEOLOGIST: **J. Smyth**
DATE BEGUN: **10/16/07** DATE COMPLETED: **10/17/07**

TOTAL DEPTH: **52**
GROUND SURFACE ELEVATION:
TOP OF CASING ELEVATION:

STATIC WATER LEVEL (TOC)		
Depth (ft)		
Time		
Date		

DEPTH	BLOW COUNT	SAMPLING METHOD	RECOVERY	DRILL METHOD	DESCRIPTION	LITHOLOGY	DEPTH	WELL INSTALLATION
0.0				HSA	SILTY CLAY: Moist to Wet gray green silty clay		0.0	
5.0	2,2,1,2	SS	6"				5.0	
10.0	3,2,3,11	SS	8"		CLAYEY SILTY SAND: Wet, dark gray, clayey silty sand with some partially weathered rock.		10.0	
15.0	18,26,27,26	SS	12"		SAPROLITE: Wet weathered potassium feldspar granite saprolite. Auger Refusal at 32 feet.		15.0	
20.0		Grab					20.0	
25.0		Grab					25.0	
29.0		Grab					30.0	

Richardson Smith Gardner and Assoc
14 North Boylan Avenue, Raleigh NC 27603
(919) 828-0577

FIELD BOREHOLE LOG

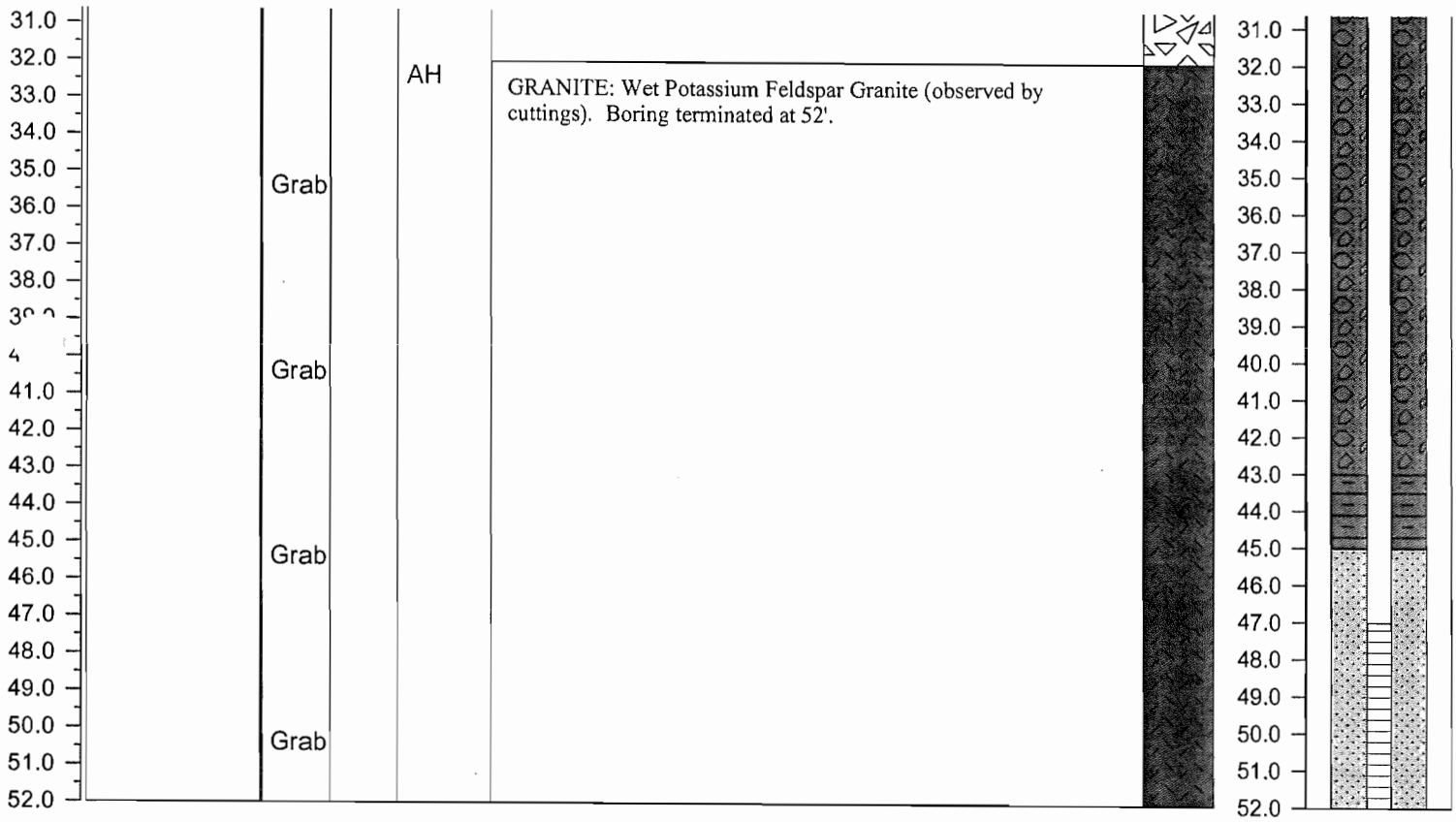
BOREHOLE NUMBER **MW-18d**

PROJECT NAME: **Halifax Landfill**
LOCATION: **Halifax Co.**
DRILLING CO: **McCall Bros.**
DRILLING METHOD: **HSA**
FIELD PARTY: **Ken McDonald**
GEOLOGIST: **J. Smyth**
DATE BEGUN: **10/16/07** DATE COMPLETED: **10/17/07**

TOTAL DEPTH: **52**
GROUND SURFACE ELEVATION:
TOP OF CASING ELEVATION:

STATIC WATER LEVEL (TOC)		
Depth (ft)		
Time		
Date		

DEPTH	BLOW COUNT	SAMPLING METHOD	RECOVERY	DRILL METHOD	DESCRIPTION	LITHOLOGY	DEPTH	WELL INSTALLATION
31.0–52.0		Grab (35.0–36.0), Grab (40.0–41.0), Grab (45.0–46.0), Grab (50.0–51.0)		AH	GRANITE: Wet Potassium Feldspar Granite (observed by cuttings). Boring terminated at 52'.		31.0–52.0	



Appendix B

Laboratory Analytical Report

Environment 1, Incorporated

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

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

REC'D MAR 24 2010

Drinking Water ID: 37715
Wastewater ID: 10

ID#: 6015

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/18/10
DATE REPORTED : 03/19/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-1	MW-7D	MW-15R	MW-16A	Analysis Date	Analyst	Method Code
PH (field measurement), Units			4.84	5.61	4.68	5.53	02/18/10	RJH	SM4500HB
Cyanide, ug/l	5.0	10.0		--- U	--- U	--- U	02/23/10	SEJ	SM4500 CN-E
Antimony, ug/l	0.06	6.0	0.4 J	0.1 J	0.2 J	--- U	02/25/10	CMF	EPA200.8
Arsenic, ug/l	0.17	10.0	--- U	--- U	--- U	0.5 J	02/25/10	CMF	EPA200.8
Barium, ug/l	0.04	100.0	23.7 J	44.6 J	64.2 J	107	02/25/10	CMF	EPA200.8
Beryllium, ug/l	0.06	1.0	0.1 J	0.1 J	0.2 J	0.8 J	02/22/50	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0	0.1 J	0.3 J	0.1 J	0.5 J	02/25/10	CMF	EPA200.8
Cobalt, ug/l	0.02	10.0	0.4 J	0.2 J	0.4 J	0.7 J	02/25/10	CMF	EPA200.8
Copper, ug/l	0.04	10.0	4.7 J	1.2 J	3.0 J	1.3 J	02/25/10	CMF	EPA200.8
Total Chromium, ug/l	0.10	10.0	--- U	--- U	--- U	--- U	02/25/10	CMF	EPA200.8
Lead, ug/l	0.04	10.0	0.2 J	0.3 J	0.1 J	1.5 J	02/25/10	CMF	EPA200.8
Mercury, ug/l	0.03	0.20		0.03 J		0.11 J	02/25/10	CMF	EPA200.8
Mercury, ug/l	0.03	0.20			0.48		03/12/10	ADD	EPA245.1
Nickel, ug/l	0.04	50.0	0.3 J	0.4 J	0.3 J	0.6 J	02/25/10	CMF	EPA200.8
Selenium, ug/l	0.12	10.0	--- U	--- U	--- U	--- U	02/25/10	CMF	EPA200.8
Silver, ug/l	0.04	10.0	0.4 J	0.2 J	0.1 J	0.2 J	02/25/10	CMF	EPA200.8
Thallium, ug/l	0.03	5.0	0.1 J	--- U	0.1 J	--- U	02/25/10	CMF	EPA200.8
Tin, ug/l	0.08	100.0		--- U	--- U	--- U	02/25/10	CMF	EPA200.8
Vanadium, ug/l	0.28	25.0	0.4 J	0.7 J	0.3 J	1.5 J	02/25/10	CMF	EPA200.8
Zinc, ug/l	0.14	10.0	2.8 J	9.4 J	4.0 J	9.2 J	02/25/10	CMF	EPA200.8
Sulfide, ug/l	100	1000		--- U	--- U	--- U	02/23/10	LFJ	SM4500-S2D
Conductivity (at 25c), uMhos	1.0	1.0	29	49	75	142	02/18/10	RJH	SM2510B
Temperature, °C			13	9	12	10	02/18/10	RJH	SM2550B
Static Water Level, feet			33.28	2.90	29.91	4.74	02/18/10	RJH	
Well Depth, feet			42.36	39.57	46.41	22.73	02/18/10	RJH	

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/18/10
DATE EXTRACTED: 02/22/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

PESTICIDES AND PCB'S
EPA METHOD 8081B

PARAMETERS, ug/l	MDL	SWSL	MW-7D	MW-15R	MW-16A
1. Aldrin	0.029	0.05	--- U	--- U	--- U
2. Alpha-BHC	0.032	0.05	--- U	--- U	--- U
3. Beta-BHC	0.031	0.05	--- U	0.04 J	--- U
4. Delta-BHC	0.030	0.05	--- U	--- U	--- U
5. Gamma-BHC (Lindane)	0.032	0.05	--- U	--- U	--- U
6. Chlordane	0.320	0.50	--- U	--- U	--- U
7. 4,4-DDD	0.051	0.10	--- U	--- U	--- U
8. 4,4-DDE	0.049	0.10	--- U	--- U	--- U
9. 4,4-DDT	0.052	0.10	--- U	--- U	--- U
10. Dieldrin	0.042	0.07	--- U	--- U	--- U
11. Endosulfan I	0.056	0.10	--- U	--- U	--- U
12. Endosulfan II	0.046	0.10	--- U	--- U	--- U
13. Endosulfan Sulfate	0.072	0.10	--- U	--- U	--- U
14. Endrin	0.053	0.10	--- U	--- U	--- U
15. Endrin Aldehyde	0.068	0.10	--- U	--- U	--- U
16. Heptachlor	0.039	0.05	--- U	--- U	--- U
17. Heptachlor Epoxide	0.042	0.07	--- U	--- U	--- U
18. Methoxychlor	0.530	1.00	--- U	--- U	--- U
19. Pcb's (Aroclors)	0.500	2.00	--- U	--- U	--- U
20. Toxaphene	0.690	1.00	--- U	--- U	--- U

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Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

REVIEWED BY: _____

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/18/10
DATE EXTRACTED: 02/24/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

LANDFILL APPENDIX II
EPA METHOD 8151A

PARAMETERS, ug/l	MDL	SWSL	MW-7D	MW-15R	MW-16A
1. 2,4-D	0.36	2.0	--- U	--- U	--- U
2. Dinoseb	0.54	1.0	--- U	--- U	--- U
3. 2,4,5-TP	0.42	2.0	--- U	--- U	--- U
4. 2,4,5-T	0.47	2.0	--- U	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015
ANALYST: MAO
DATE COLLECTED: 02/18/10
DATE ANALYZED: 03/01/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

VOLATILE ORGANICS
EPA METHOD 8260B

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

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Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015
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DATE COLLECTED: 02/18/10
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DATE ANALYZED: 03/11/10
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REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-7D	MW-15R	MW-16A
1. Acenaphthene	2.66	10.0	--- U	--- U	--- U
2. Acenaphthylene	2.60	10.0	--- U	--- U	--- U
3. Anthracene	2.97	10.0	--- U	--- U	--- U
4. Benzo[a]antrhacene	4.16	10.0	--- U	--- U	--- U
5. Benzo[b]fluoranthene	3.32	10.0	--- U	--- U	--- U
6. Benzo[k]fluoranthene	4.23	10.0	--- U	--- U	--- U
7. Benzo[g,h,i]perylene	2.61	10.0	--- U	--- U	--- U
8. Benzo[a]pyrene	3.27	10.0	--- U	--- U	--- U
9. 4-Bromophenyl Phenyl Ether	2.63	10.0	--- U	--- U	--- U
10. Butyl Benzyl Phthalate	5.78	10.0	--- U	--- U	--- U
11. Bis-(2-Chloroethoxy) Methane	3.14	10.0	--- U	--- U	--- U
12. Bis-(2-Chloroethyl) Ether	2.58	10.0	--- U	--- U	--- U
13. Bis-(2-Chloroisopropyl) Ether	2.58	10.0	--- U	--- U	--- U
14. 2-Chloronaphthalene	2.17	10.0	--- U	--- U	--- U
15. 4-Chlorophenyl Phenyl Ether	2.42	10.0	--- U	--- U	--- U
16. Chrysene	4.04	10.0	--- U	--- U	--- U
17. Dibenzo[a,h]anthracene	2.78	10.0	--- U	--- U	--- U
18. Di-N-Butyl Phthalate	3.09	10.0	--- U	--- U	--- U
19. Dimethyl Phthalate	3.78	10.0	--- U	--- U	--- U
20. Diethyl Phthalate	3.92	10.0	--- U	--- U	--- U
21. 2,4-Dinitrotoluene	3.95	10.0	--- U	--- U	--- U
22. 2,6-Dinitrotoluene	3.88	10.0	--- U	--- U	--- U
23. Di-N-Octyl Phthalate	2.81	10.0	--- U	--- U	--- U
24. Bis-(2-Ethylhexyl) Phthalate	9.97	15.0	11.10 J	11.40 J	--- U
25. Fluoranthene	3.92	10.0	--- U	--- U	--- U
26. Fluorene	2.95	10.0	--- U	--- U	--- U
27. Hexachlorobenzene	2.61	10.0	--- U	--- U	--- U
28. Hexachlorocyclopentadiene	4.16	10.0	--- U	--- U	--- U
29. Indeno[1,2,3-Cd]pyrene	2.91	10.0	--- U	--- U	--- U
30. Isophorone	3.74	10.0	--- U	--- U	--- U
31. Nitrobenzene	2.85	10.0	--- U	--- U	--- U
32. N-Nitrosodimethylamine	4.25	10.0	--- U	--- U	--- U
33. N-Nitrosodiphenylamine	3.95	10.0	--- U	--- U	--- U
34. N-Nitrosodi-N-Propylamine	4.06	10.0	--- U	--- U	--- U
35. Phenanthrene	3.24	10.0	--- U	--- U	--- U
36. Pyrene	3.63	10.0	--- U	--- U	--- U
37. 4-Chloro-3-Methylphenol	3.79	20.0	--- U	--- U	--- U
38. 2-Chlorophenol	2.75	10.0	--- U	--- U	--- U
39. O-Cresol	3.68	10.0	--- U	--- U	--- U
40. P-Cresol	4.12	10.0	--- U	--- U	--- U
41. 2,4-Dichlorophenol	5.19	10.0	--- U	--- U	--- U
42. 2,6-Dichlorophenol	4.89	10.0	--- U	--- U	--- U
43. 2,4-Dimethylphenol	3.21	10.0	--- U	--- U	--- U
44. 4,6-Dinitro-2-Methylphenol	4.77	50.0	--- U	--- U	--- U
45. 2,4-Dinitrophenol	4.37	50.0	--- U	--- U	--- U
46. Ethyl Methanesulfonate	5.26	10.0	--- U	--- U	--- U
47. Methyl Methanesulfonate	4.92	10.0	--- U	--- U	--- U
48. 2-Nitrophenol	3.64	10.0	--- U	--- U	--- U

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Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015
ANALYST: CHS
DATE COLLECTED: 02/18/10
DATE EXTRACTED: 02/23/10
DATE ANALYZED: 03/11/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-7D	MW-15R	MW-16A
49. 4-Nitrophenol	3.17	50.0	--- U	--- U	--- U
50. Pentachlorophenol	5.33	25.0	--- U	--- U	--- U
51. Phenol	1.86	10.0	--- U	--- U	--- U
52. 2,3,4,6-Tetrachlorophenol	3.12	10.0	--- U	--- U	--- U
53. 2,4,5-Trichlorophenol	4.17	10.0	--- U	--- U	--- U
54. 2,4,6-Trichlorophenol	3.84	10.0	--- U	--- U	--- U
55. Acetophenone	2.89	10.0	--- U	--- U	--- U
56. 2-Acetylaminofluorene	3.98	20.0	--- U	--- U	--- U
57. 4-Aminobiphenyl	4.12	20.0	--- U	--- U	--- U
58. Benzyl Alcohol	4.47	20.0	--- U	--- U	--- U
59. 4-Chloroaniline	3.36	20.0	--- U	--- U	--- U
60. Chlorobenzilate	5.12	10.0	--- U	--- U	--- U
61. Diallate	2.98	10.0	--- U	--- U	--- U
62. Dibenzofuran	4.28	10.0	--- U	--- U	--- U
63. 3,3-Dichlorobenzidine	4.22	20.0	--- U	--- U	--- U
64. Dimethoate	3.98	20.0	--- U	--- U	--- U
65. P-Dimethylaminoazobenzene	2.89	10.0	--- U	--- U	--- U
66. 7,12-Dimethylbenz[a]anthracene	5.26	10.0	--- U	--- U	--- U
67. 3,3-Dimethylbenzadine	3.21	10.0	--- U	--- U	--- U
68. 1,3-Dinitrobenzene	2.89	20.0	--- U	--- U	--- U
69. Diphenylamine	5.10	10.0	--- U	--- U	--- U
70. Disulfoton	4.28	10.0	--- U	--- U	--- U
71. Famphur	3.98	20.0	--- U	--- U	--- U
72. Hexachloropropene	4.31	10.0	--- U	--- U	--- U
73. Isosafrole	2.88	10.0	--- U	--- U	--- U
74. Kepone	2.78	20.0	--- U	--- U	--- U
75. Methapyrilene	3.54	100.0	--- U	--- U	--- U
76. 3-Methylchloroanthrene	4.21	10.0	--- U	--- U	--- U
77. 2-Methylnaphthalene	3.79	10.0	--- U	--- U	--- U
78. Methyl Parathion	4.32	10.0	--- U	--- U	--- U
79. m-Cresol	3.81	10.0	--- U	--- U	--- U
80. 1,4-Naphthoquinone	4.00	10.0	--- U	--- U	--- U
81. 1-Naphthylamine	5.61	10.0	--- U	--- U	--- U
82. 2-Naphthylamine	4.62	10.0	--- U	--- U	--- U
83. 2-Nitroaniline	3.61	50.0	--- U	--- U	--- U
84. 3-Nitroaniline	4.81	50.0	--- U	--- U	--- U
85. 4-Nitroaniline	4.22	20.0	--- U	--- U	--- U
86. 5-Nitro-O-Toluidine	4.01	10.0	--- U	--- U	--- U
87. N-Nitrosodi-n-butylamine	3.63	10.0	--- U	--- U	--- U
88. N-Nitrosodiethylamine	3.83	20.0	--- U	--- U	--- U
89. N-Nitrosomethylethylamine	3.83	10.0	--- U	--- U	--- U
90. N-Nitrosopiperidine	5.19	20.0	--- U	--- U	--- U
91. N-Nitrosopyrrolidine	2.89	10.0	--- U	--- U	--- U
92. Parathion	3.12	10.0	--- U	--- U	--- U
93. Pentachlorobenzene	3.92	10.0	--- U	--- U	--- U
94. Pentachloronitrobenzene	3.71	20.0	--- U	--- U	--- U
95. Phenacetin	4.41	20.0	--- U	--- U	--- U
96. 1,4 Benzenediamine	2.99	10.0	--- U	--- U	--- U

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Environment 1, Incorporated

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

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015
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REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-7D	MW-15R	MW-16A
97. Phorate	3.86	10.0	--- U	--- U	--- U
98. Pronamide	3.69	10.0	--- U	--- U	--- U
99. Safrole	4.12	10.0	--- U	--- U	--- U
100. 1,2,4,5-Tetrachlorobenzene	5.01	10.0	--- U	--- U	--- U
101. Thionazin	4.62	20.0	--- U	--- U	--- U
102. O-Toluidine	4.11	10.0	--- U	--- U	--- U
103. 1,3,5-Trinitrobenzene	3.98	10.0	--- U	--- U	--- U
104. 0,0,0-Triethyl Phosphorothioate	3.61	10.0	--- U	--- U	--- U
105. Hexachloroethane	1.49	10.0	--- U	--- U	--- U
106. Isodrin	3.11	20.0	--- U	--- U	--- U

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HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 02/18/10
DATE ANALYZED: 03/01/10
DATE REPORTED: 03/19/10

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-7D	MW-15R	MW-16A
1. Chloromethane	0.77	1.0	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	0.50 J
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	0.80 J
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	3.20	2.60
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	0.30 J
12. 1,1-Dichloroethane	0.20	5.0	--- U	5.30	8.00
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	3.70 J	19.10
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U	1.50
21. 1,2-Dichloroethane	0.21	1.0	--- U	0.50 J	--- U
22. Trichloroethene	0.23	1.0	--- U	2.10	14.70
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	0.30 J
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	2.50	35.10
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	0.70 J
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	6.60	0.90 J
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	0.50 J
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U
48. Acrolein	40.57	50.0	--- U	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 02/18/10
DATE ANALYZED: 03/01/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-7D	MW-15R	MW-16A
49. Allyl Chloride	0.20	10.0	--- U	--- U	--- U
50. Chloroprene	0.21	20.0	--- U	--- U	--- U
51. 1,3-Dichlorobenzene	0.41	5.0	--- U	--- U	--- U
52. Dichlorodifluoromethane	0.51	5.0	--- U	--- U	5.30
53. 1,3-Dichloropropane	0.28	1.0	--- U	--- U	--- U
54. 2,2-Dichloropropane	0.17	15.0	--- U	--- U	--- U
55. 1,1-Dichloropropene	0.22	5.0	--- U	--- U	--- U
56. Ethyl Methacrylate	0.16	10.0	--- U	--- U	--- U
57. Hexachlorobutadiene	0.57	10.0	--- U	--- U	--- U
58. Isobutyl Alcohol	12.80	100.0	--- U	--- U	--- U
59. Methacrylonitrile	1.93	100.0	--- U	--- U	--- U
60. Methyl Methacrylate	0.25	30.0	--- U	--- U	--- U
61. Naphthalene	0.47	10.0	--- U	--- U	--- U
62. Propionitrile	3.26	150.0	--- U	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.50	10.0	--- U	--- U	--- U
64. Acetonitrile	36.29	50.0	--- U	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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ID#: 6015

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/17/10
DATE REPORTED : 03/19/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-2A	MW-3D	MW-2AD	MW-6D	MW-3AS	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.78	6.55	6.97	6.75	6.92	02/17/10	RJH	SM4500HB
Cyanide, ug/l	5.0	10.0	--- U	--- U	--- U	--- U	--- U	02/23/10	SEJ	SM4500 CN-
Antimony, ug/l	0.06	6.0	--- U	0.8 J	--- U	0.1 J	0.1 J	02/23/10	LFJ	EPA200.8
Arsenic, ug/l	0.17	10.0	2.3 J	0.5 J	2.2 J	0.4 J	3.1 J	02/23/10	LFJ	EPA200.8
Barium, ug/l	0.04	100.0	152	63.9 J	139	562	82.8 J	02/23/10	LFJ	EPA200.8
Beryllium, ug/l	0.06	1.0	0.7 J	0.2 J	0.1 J	0.5 J	--- U	02/23/10	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.4 J	0.6 J	0.1 J	1.9	0.7 J	02/23/10	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	7.7 J	0.1 J	5.6 J	2.7 J	1.8 J	02/23/10	LFJ	EPA200.8
Copper, ug/l	0.04	10.0	2 J	1.5 J	1.2 J	1.8 J	2.1 J	02/23/10	LFJ	EPA200.8
Total Chromium, ug/l	0.10	10.0	0.7 J	--- U	--- U	--- U	--- U	02/23/10	LFJ	EPA200.8
Iron, ug/l	14.0	300.0	19800	240 J	3005	911	102875	02/24/10	ADD	SM3111B
Lead, ug/l	0.04	10.0	1.6 J	0.5 J	0.5 J	0.4 J	0.4 J	02/23/10	LFJ	EPA200.8
Mercury, ug/l	0.03	0.20	--- U	0.11 J	--- U	--- U	--- U	02/23/10	LFJ	EPA200.8
Nickel, ug/l	0.04	50.0	1.1 J	0.7 J	1.5 J	1.9 J	0.8 J	02/23/10	LFJ	EPA200.8
Selenium, ug/l	0.12	10.0	0.4 J	--- U	0.2 J	1.5 J	0.7 J	02/23/10	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	0.4 J	0.3 J	0.1 J	0.2 J	0.2 J	02/23/10	LFJ	EPA200.8
Thallium, ug/l	0.03	5.0	--- U	--- U	--- U	--- U	--- U	02/23/10	LFJ	EPA200.8
Tin, ug/l	0.08	100.0	--- U	--- U	--- U	--- U	--- U	03/01/10	LFJ	EPA200.8
Vanadium, ug/l	0.28	25.0	4.3 J	1 J	1.5 J	1.1 J	2.2 J	02/23/10	LFJ	EPA200.8
Zinc, ug/l	0.14	10.0	21	7.2 J	7.6 J	11	4.5 J	02/23/10	LFJ	EPA200.8
Sulfide, ug/l	100	1000	--- U	--- U	--- U	--- U	--- U	02/23/10	LFJ	SM4500-S2D
Conductivity (at 25c), uMhos	1.0	1.0	278	154	544	617	852	02/17/10	RJH	SM2510B
Temperature, °C			12.55	14.86	16.55	14.99	13.29	02/17/10	RJH	SM2550B
Static Water Level, feet			5.12	8.37	4.58	11.62	9.05	02/17/10	RJH	
Well Depth, feet			17.21	52.07	41.75	43.55	22.89	02/17/10	RJH	

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/22/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

PESTICIDES AND PCB'S
EPA METHOD 8081B

PARAMETERS, ug/l	MDL	SWSL	MW-2A	MW-3D	MW-2AD	MW-6D	MW-3AS
1. Aldrin	0.029	0.05	--- U	--- U	--- U	--- U	--- U
2. Alpha-BHC	0.032	0.05	--- U	--- U	--- U	--- U	--- U
3. Beta-BHC	0.031	0.05	--- U	--- U	--- U	--- U	--- U
4. Delta-BHC	0.030	0.05	--- U	--- U	--- U	--- U	--- U
5. Gamma-BHC (Lindane)	0.032	0.05	--- U	--- U	--- U	--- U	--- U
6. Chlordane	0.320	0.50	--- U	--- U	--- U	--- U	--- U
7. 4,4-DDD	0.051	0.10	--- U	--- U	--- U	--- U	--- U
8. 4,4-DDE	0.049	0.10	--- U	--- U	--- U	--- U	--- U
9. 4,4-DDT	0.052	0.10	--- U	--- U	--- U	--- U	--- U
10. Dieldrin	0.042	0.07	--- U	--- U	--- U	--- U	--- U
11. Endosulfan I	0.056	0.10	--- U	--- U	--- U	--- U	--- U
12. Endosulfan II	0.046	0.10	--- U	--- U	--- U	--- U	--- U
13. Endosulfan Sulfate	0.072	0.10	--- U	--- U	--- U	--- U	--- U
14. Endrin	0.053	0.10	--- U	--- U	--- U	--- U	--- U
15. Endrin Aldehyde	0.068	0.10	--- U	--- U	--- U	--- U	--- U
16. Heptachlor	0.039	0.05	--- U	--- U	--- U	--- U	--- U
17. Heptachlor Epoxide	0.042	0.07	--- U	--- U	--- U	--- U	--- U
18. Methoxychlor	0.530	1.00	--- U	--- U	--- U	--- U	--- U
19. Pcb's (Aroclors)	0.500	2.00	--- U	--- U	--- U	--- U	--- U
20. Toxaphene	0.690	1.00	--- U	--- U	--- U	--- U	--- U

NOTE: Surrogate recovery for MW-2A was outside control limits

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

Environment 1, Incorporated

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Wastewater ID: 10

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

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MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/24/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8151A

PARAMETERS, ug/l	MDL	SWSL	MW-2A	MW-3D	MW-2AD	MW-6D	MW-3AS
1. 2,4-D	0.36	2.0	--- U	--- U	--- U	--- U	--- U
2. Dinoseb	0.54	1.0	--- U	--- U	--- U	--- U	--- U
3. 2,4,5-TP	0.42	2.0	--- U	--- U	--- U	--- U	--- U
4. 2,4,5-T	0.47	2.0	--- U	--- U	--- U	--- U	--- U

NOTE: Dinoseb QC recovery for all samples was outside control limits.
Surrogate recovery for MW2AD was outside control limits.

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
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HALIFAX, NC 27839

CLIENT ID: 6015
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REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-2A	MW-3D	MW-2AD	MW-6D	MW-3AS
1. Acenaphthene	2.66	10.0	--- U	--- U	--- U	--- U	--- U
2. Acenaphthylene	2.60	10.0	--- U	--- U	--- U	--- U	--- U
3. Anthracene	2.97	10.0	--- U	--- U	--- U	--- U	--- U
4. Benzo[a]antrhacene	4.16	10.0	--- U	--- U	--- U	--- U	--- U
5. Benzo[b]fluoranthene	3.32	10.0	--- U	--- U	--- U	--- U	--- U
6. Benzo[k]fluoranthene	4.23	10.0	--- U	--- U	--- U	--- U	--- U
7. Benzo[g,h,i]perylene	2.61	10.0	--- U	--- U	--- U	--- U	--- U
8. Benzo[a]pyrene	3.27	10.0	--- U	--- U	--- U	--- U	--- U
9. 4-Bromophenyl Phenyl Ether	2.63	10.0	--- U	--- U	--- U	--- U	--- U
10. Butyl Benzyl Phthalate	5.78	10.0	--- U	--- U	--- U	--- U	--- U
11. Bis-(2-Chloroethoxy) Methane	3.14	10.0	--- U	--- U	--- U	--- U	--- U
12. Bis-(2-Chloroethyl) Ether	2.58	10.0	--- U	--- U	--- U	--- U	--- U
13. Bis-(2-Chloroisopropyl) Ether	2.58	10.0	--- U	--- U	--- U	--- U	--- U
14. 2-Chloronaphthalene	2.17	10.0	--- U	--- U	--- U	--- U	--- U
15. 4-Chlorophenyl Phenyl Ether	2.42	10.0	--- U	--- U	--- U	--- U	--- U
16. Chrysene	4.04	10.0	--- U	--- U	--- U	--- U	--- U
17. Dibenzo[a,h]anthracene	2.78	10.0	--- U	--- U	--- U	--- U	--- U
18. Di-N-Butyl Phthalate	3.09	10.0	--- U	--- U	--- U	--- U	--- U
19. Dimethyl Phthalate	3.78	10.0	--- U	--- U	--- U	--- U	--- U
20. Diethyl Phthalate	3.92	10.0	--- U	--- U	--- U	--- U	--- U
21. 2,4-Dinitrotoluene	3.95	10.0	--- U	--- U	--- U	--- U	--- U
22. 2,6-Dinitrotoluene	3.88	10.0	--- U	--- U	--- U	--- U	--- U
23. Di-N-Octyl Phthalate	2.81	10.0	--- U	--- U	--- U	--- U	--- U
24. Bis-(2-Ethylhexyl) Phthalate	9.97	15.0	--- U	11.30 J	13.30 J	10.60 J	--- U
25. Fluoranthene	3.92	10.0	--- U	--- U	--- U	--- U	--- U
26. Fluorene	2.95	10.0	--- U	--- U	--- U	--- U	--- U
27. Hexachlorobenzene	2.61	10.0	--- U	--- U	--- U	--- U	--- U
28. Hexachlorocyclopentadiene	4.16	10.0	--- U	--- U	--- U	--- U	--- U
29. Indeno[1,2,3-Cd]pyrene	2.91	10.0	--- U	--- U	--- U	--- U	--- U
30. Isophorone	3.74	10.0	--- U	--- U	--- U	--- U	--- U
31. Nitrobenzene	2.85	10.0	--- U	--- U	--- U	--- U	--- U
32. N-Nitrosodimethylamine	4.25	10.0	--- U	--- U	--- U	--- U	--- U
33. N-Nitrosodiphenylamine	3.95	10.0	--- U	--- U	--- U	--- U	--- U
34. N-Nitrosodi-N-Propylamine	4.06	10.0	--- U	--- U	--- U	--- U	--- U
35. Phenanthrene	3.24	10.0	--- U	--- U	--- U	--- U	--- U
36. Pyrene	3.63	10.0	--- U	--- U	--- U	--- U	--- U
37. 4-Chloro-3-Methylphenol	3.79	20.0	--- U	--- U	--- U	--- U	--- U
38. 2-Chlorophenol	2.75	10.0	--- U	--- U	--- U	--- U	--- U
39. O-Cresol	3.68	10.0	--- U	--- U	--- U	--- U	--- U
40. P-Cresol	4.12	10.0	--- U	--- U	--- U	--- U	--- U
41. 2,4-Dichlorophenol	5.19	10.0	--- U	--- U	--- U	--- U	--- U
42. 2,6-Dichlorophenol	4.89	10.0	--- U	--- U	--- U	--- U	--- U
43. 2,4-Dimethylphenol	3.21	10.0	--- U	--- U	--- U	--- U	--- U
44. 4,6-Dinitro-2-Methylphenol	4.77	50.0	--- U	--- U	--- U	--- U	--- U
45. 2,4-Dinitrophenol	4.37	50.0	--- U	--- U	--- U	--- U	--- U
46. Ethyl Methanesulfonate	5.26	10.0	--- U	--- U	--- U	--- U	--- U
47. Methyl Methanesulfonate	4.92	10.0	--- U	--- U	--- U	--- U	--- U
48. 2-Nitrophenol	3.64	10.0	--- U	--- U	--- U	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

PHONE (252) 756-6208
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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/23/10
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REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-2A	MW-3D	MW-2AD	MW-6D	MW-3AS
49. 4-Nitrophenol	3.17	50.0	--- U	--- U	--- U	--- U	--- U
50. Pentachlorophenol	5.33	25.0	--- U	--- U	--- U	--- U	--- U
51. Phenol	1.86	10.0	--- U	--- U	--- U	--- U	--- U
52. 2,3,4,6-Tetrachlorophenol	3.12	10.0	--- U	--- U	--- U	--- U	--- U
53. 2,4,5-Trichlorophenol	4.17	10.0	--- U	--- U	--- U	--- U	--- U
54. 2,4,6-Trichlorophenol	3.84	10.0	--- U	--- U	--- U	--- U	--- U
55. Acetophenone	2.89	10.0	--- U	--- U	--- U	--- U	--- U
56. 2-Acetylaminofluorene	3.98	20.0	--- U	--- U	--- U	--- U	--- U
57. 4-Aminobiphenyl	4.12	20.0	--- U	--- U	--- U	--- U	--- U
58. Benzyl Alcohol	4.47	20.0	--- U	--- U	--- U	--- U	--- U
59. 4-Chloroaniline	3.36	20.0	--- U	--- U	--- U	--- U	--- U
60. Chlorobenzilate	5.12	10.0	--- U	--- U	--- U	--- U	--- U
61. Diallate	2.98	10.0	--- U	--- U	--- U	--- U	--- U
62. Dibenzofuran	4.28	10.0	--- U	--- U	--- U	--- U	--- U
63. 3,3-Dichlorobenzidine	4.22	20.0	--- U	--- U	--- U	--- U	--- U
64. Dimethoate	3.98	20.0	--- U	--- U	--- U	--- U	--- U
65. P-Dimethylaminoazobenzene	2.89	10.0	--- U	--- U	--- U	--- U	--- U
66. 7,12-Dimethylbenz[a]anthracene	5.26	10.0	--- U	--- U	--- U	--- U	--- U
67. 3,3-Dimethylbenzadine	3.21	10.0	--- U	--- U	--- U	--- U	--- U
68. 1,3-Dinitrobenzene	2.89	20.0	--- U	--- U	--- U	--- U	--- U
69. Diphenylamine	5.10	10.0	--- U	--- U	--- U	--- U	--- U
70. Disulfoton	4.28	10.0	--- U	--- U	--- U	--- U	--- U
71. Famphur	3.98	20.0	--- U	--- U	--- U	--- U	--- U
72. Hexachloropropene	4.31	10.0	--- U	--- U	--- U	--- U	--- U
73. Isosafrole	2.88	10.0	--- U	--- U	--- U	--- U	--- U
74. Kepone	2.78	20.0	--- U	--- U	--- U	--- U	--- U
75. Methapyrilene	3.54	100.0	--- U	--- U	--- U	--- U	--- U
76. 3-Methylchloroanthrene	4.21	10.0	--- U	--- U	--- U	--- U	--- U
77. 2-Methylnaphthalene	3.79	10.0	--- U	--- U	--- U	--- U	--- U
78. Methyl Parathion	4.32	10.0	--- U	--- U	--- U	--- U	--- U
79. m-Cresol	3.81	10.0	--- U	--- U	--- U	--- U	--- U
80. 1,4-Naphthoquinone	4.00	10.0	--- U	--- U	--- U	--- U	--- U
81. 1-Naphthylamine	5.61	10.0	--- U	--- U	--- U	--- U	--- U
82. 2-Naphthylamine	4.62	10.0	--- U	--- U	--- U	--- U	--- U
83. 2-Nitroaniline	3.61	50.0	--- U	--- U	--- U	--- U	--- U
84. 3-Nitroaniline	4.81	50.0	--- U	--- U	--- U	--- U	--- U
85. 4-Nitroaniline	4.22	20.0	--- U	--- U	--- U	--- U	--- U
86. 5-Nitro-O-Toluidine	4.01	10.0	--- U	--- U	--- U	--- U	--- U
87. N-Nitrosodi-n-butylamine	3.63	10.0	--- U	--- U	--- U	--- U	--- U
88. N-Nitrosodiethylamine	3.83	20.0	--- U	--- U	--- U	--- U	--- U
89. N-Nitrosomethylethylamine	3.83	10.0	--- U	--- U	--- U	--- U	--- U
90. N-Nitrosopiperidine	5.19	20.0	--- U	--- U	--- U	--- U	--- U
91. N-Nitrosopyrrolidine	2.89	10.0	--- U	--- U	--- U	--- U	--- U
92. Parathion	3.12	10.0	--- U	--- U	--- U	--- U	--- U
93. Pentachlorobenzene	3.92	10.0	--- U	--- U	--- U	--- U	--- U
94. Pentachloronitrobenzene	3.71	20.0	--- U	--- U	--- U	--- U	--- U
95. Phenacetin	4.41	20.0	--- U	--- U	--- U	--- U	--- U
96. 1,4 Benzenediamine	2.99	10.0	--- U	--- U	--- U	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
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P.O. BOX 7085, 114 OAKMONT DRIVE
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REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-2A	MW-3D	MW-2AD	MW-6D	MW-3AS
97. Phorate	3.86	10.0	--- U	--- U	--- U	--- U	--- U
98. Pronamide	3.69	10.0	--- U	--- U	--- U	--- U	--- U
99. Safrole	4.12	10.0	--- U	--- U	--- U	--- U	--- U
100. 1,2,4,5-Tetrachlorobenzene	5.01	10.0	--- U	--- U	--- U	--- U	--- U
101. Thionazin	4.62	20.0	--- U	--- U	--- U	--- U	--- U
102. O-Toluidine	4.11	10.0	--- U	--- U	--- U	--- U	--- U
103. 1,3,5-Trinitrobenzene	3.98	10.0	--- U	--- U	--- U	--- U	--- U
104. 0,0,0-Triethyl Phosphorothioate	3.61	10.0	--- U	--- U	--- U	--- U	--- U
105. Hexachloroethane	1.49	10.0	--- U	--- U	--- U	--- U	--- U
106. Isodrin	3.11	20.0	--- U	--- U	--- U	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 02/17/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	02/26/10 MW-2A	02/26/10 MW-3D	02/26/10 MW-2AD	03/01/10 MW-6D	03/01/10 MW-3AS
1. Chloromethane	0.77	1.0	--- U	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	5.20	--- U	5.00	1.10	2.10
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	0.70 J	--- U	1.70 J	--- U	1.40 J
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	1.00 J	0.40 J	0.20 J	--- 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	14.60	6.50	21.80	0.50 J	3.50 J
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	18.70	4.00 J	12.66	1.50 J	0.90 J
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	0.80 J	0.30 J	1.40	1.80	2.90
21. 1,2-Dichloroethane	0.21	1.0	0.40 J	--- U	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	7.30	1.30	3.40	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U	--- U	0.70 J
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	0.40 J	1.90	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	2.50 J	--- U	1.60 J	18.50	7.60
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	1.10	--- U	1.30	1.70	2.60
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 Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 02/17/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Date Analyzed: 02/26/10 MW-2A	02/26/10 MW-3D	02/26/10 MW-2AD	03/01/10 MW-6D	03/01/10 MW-3AS
48. Acrolein	40.57	50.0	--- U	--- U	--- U	--- U	--- U
49. Allyl Chloride	0.20	10.0	--- U	--- U	--- U	--- U	--- U
50. Chloroprene	0.21	20.0	--- U	--- U	--- U	--- U	--- U
51. 1,3-Dichlorobenzene	0.41	5.0	--- U	--- U	--- U	--- U	--- U
52. Dichlorodifluoromethane	0.51	5.0	0.90 J	1.30 J	0.90 J	--- U	--- U
53. 1,3-Dichloropropane	0.28	1.0	--- U	--- U	--- U	--- U	--- U
54. 2,2-Dichloropropane	0.17	15.0	--- U	--- U	--- U	--- U	--- U
55. 1,1-Dichloropropene	0.22	5.0	--- U	--- U	--- U	--- U	--- U
56. Ethyl Methacrylate	0.16	10.0	--- U	--- U	--- U	--- U	--- U
57. Hexachlorobutadiene	0.57	10.0	--- U	--- U	--- U	--- U	--- U
58. Isobutyl Alcohol	12.80	100.0	--- U	--- U	--- U	--- U	--- U
59. Methacrylonitrile	1.93	100.0	--- U	--- U	--- U	--- U	--- U
60. Methyl Methacrylate	0.25	30.0	--- U	--- U	--- U	--- U	--- U
61. Naphthalene	0.47	10.0	--- U	--- U	--- U	--- U	--- U
62. Propionitrile	3.26	150.0	--- U	--- U	--- U	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.50	10.0	--- U	--- U	--- U	--- U	--- U
64. Acetonitrile	36.29	50.0	--- U	--- U	--- U	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015
ANALYST: MAO
DATE COLLECTED: 02/17/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	03/01/10 Trip Blank	03/01/10 Equipment Blank
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	0.21	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 Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015
ANALYST: MAO
DATE COLLECTED: 02/17/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	03/01/10 Trip Blank	03/01/10 Equipment Blank
48. Acrolein	40.57	50.0	--- U	--- U
49. Allyl Chloride	0.20	10.0	--- U	--- U
50. Chloroprene	0.21	20.0	--- U	--- U
51. 1,3-Dichlorobenzene	0.41	5.0	--- U	--- U
52. Dichlorodifluoromethane	0.51	5.0	--- U	--- U
53. 1,3-Dichloropropane	0.28	1.0	--- U	--- U
54. 2,2-Dichloropropane	0.17	15.0	--- U	--- U
55. 1,1-Dichloropropene	0.22	5.0	--- U	--- U
56. Ethyl Methacrylate	0.16	10.0	--- U	--- U
57. Hexachlorobutadiene	0.57	10.0	--- U	--- U
58. Isobutyl Alcohol	12.80	100.0	--- U	--- U
59. Methacrylonitrile	1.93	100.0	--- U	--- U
60. Methyl Methacrylate	0.25	30.0	--- U	--- U
61. Naphthalene	0.47	10.0	--- U	--- U
62. Propionitrile	3.26	150.0	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.50	10.0	--- U	--- U
64. Acetonitrile	36.29	50.0	--- U	--- U

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

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 **Week: 6**

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

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

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB): 12 12 9 12 12 12

CONTAINER TYPE, P/G: P P P P P P G G G G G G G G G

CHEMICAL PRESERVATION: A D A F D A A E E A A A A E E E

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Cyanide	Metals	Sulfide	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	EPA 8270C	8270C Dup. 1	EPA 8081B	8151A Duplicate	8260B App. II	8260 App. II 1	8260 App. II 2
MW-1					4	▒		▒		▒	▒	▒	▒	▒							
MW-2A	02 17 12	1020		12.55	12	G	G	G	G	G	G	G			G	G	G	G	G	G	
~~MW-7D~~					13	▒	▒	▒	▒	▒	▒	▒			▒	▒	▒	▒	▒	▒	▒
MW-2AD	02 17 12	1045		16.55	12	G	G	G	G	G	G	G			G	G	G	G	G	G	
MW-6D	02 17 12	1335		14.91	12	G	G	G	G	G	G	G			G	G	G	G	G	G	
~~MW-15R~~					12	▒	▒	▒	▒	▒	▒	▒			▒	▒	▒	▒	▒	▒	
MW-3AS	02 17 12	1300		13.29	13	G	G	G	G	G	G	G			G	G	G	G	G	G	G
~~MW-3AD~~ 3D	02 17 12	1225		14.86	13	G	G	G	G	G	G	G			G	G	G	G	G	G	G
~~MW-16A~~					12	▒	▒	▒	▒	▒	▒	▒			▒	▒	▒	▒	▒	▒	
Trip Blank					2														▒	▒	
Equipment Blank	02 17 12				2														G	G	

PARAMETERS

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

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

SAMPLES COLLECTED BY: (Please Print) N Lagoe Fat

SAMPLES RECEIVED IN LAB AT 02 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bob N Lagoe	02 17 12	[signature]	2/17 3:50
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS: MW 16A WILL BE SAMPLED FEB 18
MW1 · MW7D
MW 15R

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

№ 197002

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 **Week:** 6

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	8151A Landfill																	
						G																	
						A																	
MW-1		RTH			4																		
MW-2A 02	1710	1000		12.55	12	G																	
MW-7D					13																		
MW-2AD 02	1710	1045		16.55	12	G																	
MW-6D 02	1710	1335		14.99	12	G																	
MW-15R					12																		
MW-3AS 02	1710	1300		13.29	13	G																	
MW~~3AD~~ 3D 02	1710	1225		14.86	13	G																	
MW-16A					12																		
Trip Blank					2																		
Equipment Blank 02					2																		

PARAMETERS

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

CHLORINE NEUTRALIZED AT COLLECTION
pH CHECK (LAB)
CONTAINER TYPE, P/G
CHEMICAL PRESERVATION

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

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
Y N

SAMPLES COLLECTED BY:
(Please Print)
H Lopez | Fat

SAMPLES RECEIVED IN LAB AT _____ °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bob Hlopez 02	1710		
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS: MW7D-15R-16A SAMPLED FEB 18
MW3AD CHANGED to MW 3D
PER JOAN Smyth
G.N. RICHARDSON

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

№ 197001

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 **Week: 6**

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Cyanide	Metals	Sulfide	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	EPA 8270C	8270C Dup. 1	EPA 8081B	8151A Duplicate	8260B App. II	8260 App. II 1	8260 App. II 2
CHLORINE NEUTRALIZED AT COLLECTION																					
pH CHECK (LAB)							12	12	9				12	12					12	12	
CONTAINER TYPE, P/G						P	P	P	P	P	P		G	G	G	G	G	G	G	G	G
CHEMICAL PRESERVATION						A	D	A	F D	A	A		E	E	A	A	A	A	E	E	E
MW-1	02	1810	1010		13.09	4	C		C		C	C	C	C							
~~MW-2A~~						12															
MW-7D	02	1810	0940		9.01	13	C	C	C	C	C	C	C			C	C	C	C	C	C
~~MW-2AD~~						12															
~~MW-6D~~						12															
MW-15R	02	1810	0910		12.07	12	C	C	C	C	C	C	C			C	C	C	C	C	C
~~MW-3AS~~						13															
~~MW-3AD~~						13															
MW-16A	02	1810	0855		10.07	12	C	C	C	C	C	C	C			C	C	C	C	C	C
Trip Blank						2															
Equipment Blank	02	1710				2													C	C	

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
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) Roger Ford

SAMPLES RECEIVED IN LAB AT 0.2 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bob Roger 02	1810		2/18/13
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

№ 199049

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 **Week:** 6

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	8151A Landfill
					G	
					A	
MW-1					4	
~~MW-2A~~					12	
MW-7D	02/8/10	0947		9.01	13	G
~~MW-2AD~~					12	
~~MW-6D~~					12	
MW-15R	02/8/10	0912		12.07	12	G
~~MW-3AS~~					13	
~~MW-3AD~~					13	
MW-16A	02/8/10	0855		10.07	12	G
Trip Blank					2	
Equipment Blank					2	

CHLORINE NEUTRALIZED AT COLLECTION
pH CHECK (LAB)
CONTAINER TYPE, P/G
CHEMICAL PRESERVATION

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
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) H Hope for

SAMPLES RECEIVED IN LAB AT 02 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bob H Hope	02/8/10		
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
			2/8/10
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.

№ 199048

FORM #5

Environment 1, Incorporated

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

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

REC'D MAR 24 2010

Drinking Water ID: 37715
Wastewater ID: 10

ID#: 6015 B

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/17/10
DATE REPORTED : 03/19/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-17	Trip Blank	MW-18S	BP-3	BP-9	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.53		7.04			02/17/10	RJH	SM4500HB
Cyanide, ug/l	5.0	10.0	--- U		--- U			02/23/10	SEJ	SM4500 CN-
Antimony, ug/l	0.06	6.0	--- U		0.2 J			02/23/10	LFJ	EPA200.8
Arsenic, ug/l	0.17	10.0	0.5 J		2.7 J			02/23/10	LFJ	EPA200.8
Barium, ug/l	0.04	100.0	60 J		93.7 J			02/23/10	LFJ	EPA200.8
Beryllium, ug/l	0.06	1.0	0.8 J		0.2 J			02/23/10	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.3 J		0.4 J			02/23/10	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	1 J		6.8 J			02/23/10	LFJ	EPA200.8
Copper, ug/l	0.04	10.0	1.8 J		1.8 J			02/23/10	LFJ	EPA200.8
Total Chromium, ug/l	0.10	10.0	--- U		0.3 J			02/23/10	LFJ	EPA200.8
Iron, ug/l	14.0	300.0	3115		20075			02/24/10	ADD	SM3111B
Lead, ug/l	0.04	10.0	3.6 J		5.4 J			02/23/10	LFJ	EPA200.8
Mercury, ug/l	0.03	0.20	0.1 J		--- U			02/23/10	LFJ	EPA200.8
Nickel, ug/l	0.04	50.0	0.9 J		1.5 J			02/23/10	LFJ	EPA200.8
Selenium, ug/l	0.12	10.0	--- U		--- U			02/23/10	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	0.1 J		0.2 J			02/23/10	LFJ	EPA200.8
Thallium, ug/l	0.03	5.0	0.1 J		0.1 J			02/23/10	LFJ	EPA200.8
Tin, ug/l	0.08	100.0	--- U		1.6 J			03/01/10	LFJ	EPA200.8
Vanadium, ug/l	0.28	25.0	4. J		4.7 J			02/23/10	LFJ	EPA200.8
Zinc, ug/l	0.14	10.0	16		7.6 J			02/23/10	LFJ	EPA200.8
Sulfide, ug/l	100	1000	--- U		--- U			02/23/10	LFJ	SM4500-S2D
Conductivity (at 25c), uMhos	1.0	1.0	131		269			02/17/10	RJH	SM2510B
Temperature, °C			14.41		12.96			02/17/10	RJH	SM2550B
Static Water Level, feet			5.25		4.23	29.31	28.23	02/17/10	RJH	
Well Depth, feet			27.59		20.25			02/17/10	RJH	

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

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Wastewater ID: 10

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

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

CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

REVIEWED BY: _____

CLIENT ID: 6015 B

ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/22/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

PESTICIDES AND PCB'S
EPA METHOD 8081B

PARAMETERS, ug/l	MDL	SWSL	MW-17	MW-18S
1. Aldrin	0.029	0.05	--- U	--- U
2. Alpha-BHC	0.032	0.05	--- U	--- U
3. Beta-BHC	0.031	0.05	--- U	--- U
4. Delta-BHC	0.030	0.05	--- U	--- U
5. Gamma-BHC (Lindane)	0.032	0.05	--- U	--- U
6. Chlordane	0.320	0.50	--- U	--- U
7. 4,4-DDD	0.051	0.10	--- U	--- U
8. 4,4-DDE	0.049	0.10	--- U	--- U
9. 4,4-DDT	0.052	0.10	--- U	--- U
10. Dieldrin	0.042	0.07	--- U	--- U
11. Endosulfan I	0.056	0.10	--- U	--- U
12. Endosulfan II	0.046	0.10	--- U	--- U
13. Endosulfan Sulfate	0.072	0.10	--- U	--- U
14. Endrin	0.053	0.10	--- U	--- U
15. Endrin Aldehyde	0.068	0.10	--- U	--- U
16. Heptachlor	0.039	0.05	--- U	--- U
17. Heptachlor Epoxide	0.042	0.07	--- U	--- U
18. Methoxychlor	0.530	1.00	--- U	--- U
19. Pcb's (Aroclors)	0.500	2.00	--- U	--- U
20. Toxaphene	0.690	1.00	--- U	--- U

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GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

REVIEWED BY: _____

CLIENT ID: 6015 B
ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/24/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

LANDFILL APPENDIX II
EPA METHOD 8151A

PARAMETERS, ug/l	MDL	SWSL	MW-17	MW-18S
1. 2,4-D	0.36	2.0	--- U	--- U
2. Dinoseb	0.54	1.0	--- U	--- U
3. 2,4,5-TP	0.42	2.0	--- U	--- U
4. 2,4,5-T	0.47	2.0	--- U	--- U

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 B

ANALYST: MAO
DATE COLLECTED: 02/17/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

VOLATILE ORGANICS
EPA METHOD 8260B

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

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REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-17	MW-18S
1. Acenaphthene	2.66	10.0	--- U	--- U
2. Acenaphthylene	2.60	10.0	--- U	--- U
3. Anthracene	2.97	10.0	--- U	--- U
4. Benzo[a]antrhacene	4.16	10.0	--- U	--- U
5. Benzo[b]fluoranthene	3.32	10.0	--- U	--- U
6. Benzo[k]fluoranthene	4.23	10.0	--- U	--- U
7. Benzo[g,h,i]perylene	2.61	10.0	--- U	--- U
8. Benzo[a]pyrene	3.27	10.0	--- U	--- U
9. 4-Bromophenyl Phenyl Ether	2.63	10.0	--- U	--- U
10. Butyl Benzyl Phthalate	5.78	10.0	--- U	--- U
11. Bis-(2-Chloroethoxy) Methane	3.14	10.0	--- U	--- U
12. Bis-(2-Chloroethyl) Ether	2.58	10.0	--- U	--- U
13. Bis-(2-Chloroisopropyl) Ether	2.58	10.0	--- U	--- U
14. 2-Chloronaphthalene	2.17	10.0	--- U	--- U
15. 4-Chlorophenyl Phenyl Ether	2.42	10.0	--- U	--- U
16. Chrysene	4.04	10.0	--- U	--- U
17. Dibenzo[a,h]anthracene	2.78	10.0	--- U	--- U
18. Di-N-Butyl Phthalate	3.09	10.0	--- U	--- U
19. Dimethyl Phthalate	3.78	10.0	--- U	--- U
20. Diethyl Phthalate	3.92	10.0	--- U	--- U
21. 2,4-Dinitrotoluene	3.95	10.0	--- U	--- U
22. 2,6-Dinitrotoluene	3.88	10.0	--- U	--- U
23. Di-N-Octyl Phthalate	2.81	10.0	--- U	--- U
24. Bis-(2-Ethylhexyl) Phthalate	9.97	15.0	11.80 J	--- U
25. Fluoranthene	3.92	10.0	--- U	--- U
26. Fluorene	2.95	10.0	--- U	--- U
27. Hexachlorobenzene	2.61	10.0	--- U	--- U
28. Hexachlorocyclopentadiene	4.16	10.0	--- U	--- U
29. Indeno[1,2,3-Cd]pyrene	2.91	10.0	--- U	--- U
30. Isophorone	3.74	10.0	--- U	--- U
31. Nitrobenzene	2.85	10.0	--- U	--- U
32. N-Nitrosodimethylamine	4.25	10.0	--- U	--- U
33. N-Nitrosodiphenylamine	3.95	10.0	--- U	--- U
34. N-Nitrosodi-N-Propylamine	4.06	10.0	--- U	--- U
35. Phenanthrene	3.24	10.0	--- U	--- U
36. Pyrene	3.63	10.0	--- U	--- U
37. 4-Chloro-3-Methylphenol	3.79	20.0	--- U	--- U
38. 2-Chlorophenol	2.75	10.0	--- U	--- U
39. O-Cresol	3.68	10.0	--- U	--- U
40. P-Cresol	4.12	10.0	--- U	--- U
41. 2,4-Dichlorophenol	5.19	10.0	--- U	--- U
42. 2,6-Dichlorophenol	4.89	10.0	--- U	--- U
43. 2,4-Dimethylphenol	3.21	10.0	--- U	--- U
44. 4,6-Dinitro-2-Methylphenol	4.77	50.0	--- U	--- U
45. 2,4-Dinitrophenol	4.37	50.0	--- U	--- U
46. Ethyl Methanesulfonate	5.26	10.0	--- U	--- U
47. Methyl Methanesulfonate	4.92	10.0	--- U	--- U
48. 2-Nitrophenol	3.64	10.0	--- U	--- U

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Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 B
ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/23/10
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REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-17	MW-18S
49. 4-Nitrophenol	3.17	50.0	--- U	--- U
50. Pentachlorophenol	5.33	25.0	--- U	--- U
51. Phenol	1.86	10.0	--- U	--- U
52. 2,3,4,6-Tetrachlorophenol	3.12	10.0	--- U	--- U
53. 2,4,5-Trichlorophenol	4.17	10.0	--- U	--- U
54. 2,4,6-Trichlorophenol	3.84	10.0	--- U	--- U
55. Acetophenone	2.89	10.0	--- U	--- U
56. 2-Acetylaminofluorene	3.98	20.0	--- U	--- U
57. 4-Aminobiphenyl	4.12	20.0	--- U	--- U
58. Benzyl Alcohol	4.47	20.0	--- U	--- U
59. 4-Chloroaniline	3.36	20.0	--- U	--- U
60. Chlorobenzilate	5.12	10.0	--- U	--- U
61. Diallate	2.98	10.0	--- U	--- U
62. Dibenzofuran	4.28	10.0	--- U	--- U
63. 3,3-Dichlorobenzidine	4.22	20.0	--- U	--- U
64. Dimethoate	3.98	20.0	--- U	--- U
65. P-Dimethylaminoazobenzene	2.89	10.0	--- U	--- U
66. 7,12-Dimethylbenz[a]anthracene	5.26	10.0	--- U	--- U
67. 3,3-Dimethylbenzadine	3.21	10.0	--- U	--- U
68. 1,3-Dinitrobenzene	2.89	20.0	--- U	--- U
69. Diphenylamine	5.10	10.0	--- U	--- U
70. Disulfoton	4.28	10.0	--- U	--- U
71. Famphur	3.98	20.0	--- U	--- U
72. Hexachloropropene	4.31	10.0	--- U	--- U
73. Isosafrole	2.88	10.0	--- U	--- U
74. Kepone	2.78	20.0	--- U	--- U
75. Methapyrilene	3.54	100.0	--- U	--- U
76. 3-Methylchloroanthrene	4.21	10.0	--- U	--- U
77. 2-Methylnaphthalene	3.79	10.0	--- U	--- U
78. Methyl Parathion	4.32	10.0	--- U	--- U
79. m-Cresol	3.81	10.0	--- U	--- U
80. 1,4-Naphthoquinone	4.00	10.0	--- U	--- U
81. 1-Naphthylamine	5.61	10.0	--- U	--- U
82. 2-Naphthylamine	4.62	10.0	--- U	--- U
83. 2-Nitroaniline	3.61	50.0	--- U	--- U
84. 3-Nitroaniline	4.81	50.0	--- U	--- U
85. 4-Nitroaniline	4.22	20.0	--- U	--- U
86. 5-Nitro-O-Toluidine	4.01	10.0	--- U	--- U
87. N-Nitrosodi-n-butylamine	3.63	10.0	--- U	--- U
88. N-Nitrosodiethylamine	3.83	20.0	--- U	--- U
89. N-Nitrosomethylethylamine	3.83	10.0	--- U	--- U
90. N-Nitrosopiperidine	5.19	20.0	--- U	--- U
91. N-Nitrosopyrrolidine	2.89	10.0	--- U	--- U
92. Parathion	3.12	10.0	--- U	--- U
93. Pentachlorobenzene	3.92	10.0	--- U	--- U
94. Pentachloronitrobenzene	3.71	20.0	--- U	--- U
95. Phenacetin	4.41	20.0	--- U	--- U
96. 1,4 Benzenediamine	2.99	10.0	--- U	--- U

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MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 B
ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/23/10
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DATE REPORTED: 03/19/10

REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-17	MW-18S
97. Phorate	3.86	10.0	--- U	--- U
98. Pronamide	3.69	10.0	--- U	--- U
99. Safrole	4.12	10.0	--- U	--- U
100. 1,2,4,5-Tetrachlorobenzene	5.01	10.0	--- U	--- U
101. Thionazin	4.62	20.0	--- U	--- U
102. O-Toluidine	4.11	10.0	--- U	--- U
103. 1,3,5-Trinitrobenzene	3.98	10.0	--- U	--- U
104. 0,0,0-Triethyl Phosphorothioate	3.61	10.0	--- U	--- U
105. Hexachloroethane	1.49	10.0	--- U	--- U
106. Isodrin	3.11	20.0	--- U	--- U

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 B
ANALYST: MAO
DATE COLLECTED: 02/17/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-17	MW-18S
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	0.20 J	--- 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	3.30 J	0.30 J
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	1.60 J	--- 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	0.21	1.0	--- U	--- U
22. Trichloroethene	0.23	1.0	1.60	--- 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	1.60	--- 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
48. Acrolein	40.57	50.0	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 B
ANALYST: MAO
DATE COLLECTED: 02/17/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-17	MW-18S
49. Allyl Chloride	0.20	10.0	--- U	--- U
50. Chloroprene	0.21	20.0	--- U	--- U
51. 1,3-Dichlorobenzene	0.41	5.0	--- U	--- U
52. Dichlorodifluoromethane	0.51	5.0	--- U	--- U
53. 1,3-Dichloropropane	0.28	1.0	--- U	--- U
54. 2,2-Dichloropropane	0.17	15.0	--- U	--- U
55. 1,1-Dichloropropene	0.22	5.0	--- U	--- U
56. Ethyl Methacrylate	0.16	10.0	--- U	--- U
57. Hexachlorobutadiene	0.57	10.0	--- U	--- U
58. Isobutyl Alcohol	12.80	100.0	--- U	--- U
59. Methacrylonitrile	1.93	100.0	--- U	--- U
60. Methyl Methacrylate	0.25	30.0	--- U	--- U
61. Naphthalene	0.47	10.0	--- U	--- U
62. Propionitrile	3.26	150.0	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.50	10.0	--- U	--- U
64. Acetonitrile	36.29	50.0	--- U	--- U

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

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 B **Week: 6**

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS
MW-17 02	17 10	1135		14.4	12
Trip Blank 02					2
MW-18S 02	17 10	0910		12.9	12
BP-3 02	17 10				1
BP-9 02	1710				1

	Field pH	Cyanide	Metals	Sulfide	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	EPA 8270C	8270C Dup. 1	EPA 8081B	8260B App. II	8260 App. II 1	8260 App. II 2	8151A Landfill
CHLORINE NEUTRALIZED AT COLLECTION																
pH CHECK (LAB)		>12	<2	>9									<2	<2		
CONTAINER TYPE, P/G	P	P	P	P	P	P		G	G	G	G	G	G	G	G	G
CHEMICAL PRESERVATION	A	D	A	F D	A	A		E	E	A	A	A	E	E	E	A
PARAMETERS																

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
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)
Bob Hope | Bob

SAMPLES RECEIVED IN LAB AT 0C °C

	DATE/TIME		DATE/TIME
RELINQUISHED BY (SIG.) (SAMPLER) Bob Hope 02	17 10	RECEIVED BY (SIG.)	2/17 3:50
RELINQUISHED BY (SIG.)		RECEIVED BY (SIG.)	
RELINQUISHED BY (SIG.)		RECEIVED BY (SIG.)	

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

№ 197496

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 B **Week: 6**

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	8151A Duplicate
MW-17 02	1710	1135		14.4	12	G
Trip Blank 02	1711	~~0910~~			2	
MW-18S 02	17 11	0910		12.96	12	G
BP-3					1	
BP-9					1	

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
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)
H Pegoe

SAMPLES RECEIVED IN LAB AT 02 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
H Pegoe 02	17 12		2/17 3:50
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

№ 197495

Environment 1, Incorporated

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

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

REC'D MAR 24 2010

Drinking Water ID: 37715
Wastewater ID: 10

ID#: 6015 E

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/17/10
DATE REPORTED : 03/19/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-18D	G-13	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.63	Missing	02/17/10	RJH	SM4500HB
Cyanide, ug/l	5.0	10.0	--- U		02/23/10	SEJ	SM4500 CN-E
Antimony, ug/l	0.06	6.0	0.1 J	Missing	02/25/10	CMF	EPA200.8
Arsenic, ug/l	0.17	10.0	0.2 J	Missing	02/25/10	CMF	EPA200.8
Barium, ug/l	0.04	100.0	65.0 J	Missing	02/25/10	CMF	EPA200.8
Beryllium, ug/l	0.06	1.0	--- U	Missing	02/22/50	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0	0.7 J	Missing	02/25/10	CMF	EPA200.8
Cobalt, ug/l	0.02	10.0	0.1 J	Missing	02/25/10	CMF	EPA200.8
Copper, ug/l	0.04	10.0	1.1 J	Missing	02/25/10	CMF	EPA200.8
Total Chromium, ug/l	0.10	10.0	--- U	Missing	02/25/10	CMF	EPA200.8
Iron, ug/l	14.0	300.0	161 J	Missing	02/24/10	ADD	SM3111B
Lead, ug/l	0.04	10.0	0.5 J	Missing	02/25/10	CMF	EPA200.8
Mercury, ug/l	0.03	0.20	0.07 J		02/25/10	CMF	EPA200.8
Nickel, ug/l	0.04	50.0	2.1 J	Missing	02/25/10	CMF	EPA200.8
Selenium, ug/l	0.12	10.0	--- U	Missing	02/25/10	CMF	EPA200.8
Silver, ug/l	0.04	10.0	0.4 J	Missing	02/25/10	CMF	EPA200.8
Thallium, ug/l	0.03	5.0	0.1 J	Missing	02/25/10	CMF	EPA200.8
Tin, ug/l	0.08	100.0	--- U		02/25/10	CMF	EPA200.8
Vanadium, ug/l	0.28	25.0	1.3 J	Missing	02/25/10	CMF	EPA200.8
Zinc, ug/l	0.14	10.0	6.8 J	Missing	02/25/10	CMF	EPA200.8
Sulfide, ug/l	100	1000	--- U		02/23/10	LFJ	SM4500-S2D
Conductivity (at 25c), uMhos	1.0	1.0	166	Missing	02/17/10	RJH	SM2510B
Temperature, °C			9.65	Missing	02/17/10	RJH	SM2550B
Static Water Level, feet			3.87	Missing	02/17/10	RJH	
Well Depth, feet			55.11	Missing	02/17/10	RJH	
8260 (duplicate)				Missing			

J = Between MDL and SWSL, U = Below ALL Quanititation 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#: 6015 E

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/18/10
DATE REPORTED : 02/18/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	G-13D	Analysis Date	Analyst	Method Code
PH (field measurement), Units	0.04	10.0	Missing			
Antimony, ug/l	0.04	10.0	Missing			
Arsenic, ug/l	0.04	10.0	Missing			
Barium, ug/l	0.04	10.0	Missing			
Beryllium, ug/l	0.04	10.0	Missing			
Cadmium, ug/l	0.04	10.0	Missing			
Cobalt, ug/l	0.04	10.0	Missing			
Copper, ug/l	0.04	10.0	Missing			
Total Chromium, ug/l	0.04	10.0	Missing			
Iron, ug/l	0.04	10.0	Missing			
Lead, ug/l	0.04	10.0	Missing			
Nickel, ug/l	0.04	10.0	Missing			
Selenium, ug/l	0.04	10.0	Missing			
Silver, ug/l	0.04	10.0	Missing			
Thallium, ug/l	0.04	10.0	Missing			
Vanadium, ug/l	0.04	10.0	Missing			
Zinc, ug/l	0.04	10.0	Missing			
Conductivity (at 25c), uMhos	0.04	10.0	Missing			
Temperature, °C	0.04	10.0	Missing			
Static Water Level, feet	0.04	10.0	Missing			
Well Depth, feet	0.04	10.0	Missing			

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

REVIEWED BY: _____

CLIENT ID: 6015 E
ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/22/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

PESTICIDES AND PCB'S
EPA METHOD 8081B

PARAMETERS, ug/l	MDL	SWSL	MW-18D
1. Aldrin	0.029	0.05	--- U
2. Alpha-BHC	0.032	0.05	--- U
3. Beta-BHC	0.031	0.05	--- U
4. Delta-BHC	0.030	0.05	--- U
5. Gamma-BHC (Lindane)	0.032	0.05	--- U
6. Chlordane	0.320	0.50	--- U
7. 4,4-DDD	0.051	0.10	--- U
8. 4,4-DDE	0.049	0.10	--- U
9. 4,4-DDT	0.052	0.10	--- U
10. Dieldrin	0.042	0.07	--- U
11. Endosulfan I	0.056	0.10	--- U
12. Endosulfan II	0.046	0.10	--- U
13. Endosulfan Sulfate	0.072	0.10	--- U
14. Endrin	0.053	0.10	--- U
15. Endrin Aldehyde	0.068	0.10	--- U
16. Heptachlor	0.039	0.05	--- U
17. Heptachlor Epoxide	0.042	0.07	--- U
18. Methoxychlor	0.530	1.00	--- U
19. Pcb's (Aroclors)	0.500	2.00	--- U
20. Toxaphene	0.690	1.00	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

REVIEWED BY: _____

CLIENT ID: 6015 E
ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/24/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

LANDFILL APPENDIX II
EPA METHOD 8151A

PARAMETERS, ug/l	MDL	SWSL	MW-18D
1. 2,4-D	0.36	2.0	--- U
2. Dinoseb	0.54	1.0	--- U
3. 2,4,5-TP	0.42	2.0	--- U
4. 2,4,5-T	0.47	2.0	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 E

ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/23/10
DATE ANALYZED: 03/11/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-18D
1. Acenaphthene	2.66	10.0	--- U
2. Acenaphthylene	2.60	10.0	--- U
3. Anthracene	2.97	10.0	--- U
4. Benzo[a]antrhacene	4.16	10.0	--- U
5. Benzo[b]fluoranthene	3.32	10.0	--- U
6. Benzo[k]fluoranthene	4.23	10.0	--- U
7. Benzo[g,h,i]perylene	2.61	10.0	--- U
8. Benzo[a]pyrene	3.27	10.0	--- U
9. 4-Bromophenyl Phenyl Ether	2.63	10.0	--- U
10. Butyl Benzyl Phthalate	5.78	10.0	--- U
11. Bis-(2-Chloroethoxy) Methane	3.14	10.0	--- U
12. Bis-(2-Chloroethyl) Ether	2.58	10.0	--- U
13. Bis-(2-Chloroisopropyl) Ether	2.58	10.0	--- U
14. 2-Chloronaphthalene	2.17	10.0	--- U
15. 4-Chlorophenyl Phenyl Ether	2.42	10.0	--- U
16. Chrysene	4.04	10.0	--- U
17. Dibenzo[a,h]anthracene	2.78	10.0	--- U
18. Di-N-Butyl Phthalate	3.09	10.0	--- U
19. Dimethyl Phthalate	3.78	10.0	--- U
20. Diethyl Phthalate	3.92	10.0	--- U
21. 2,4-Dinitrotoluene	3.95	10.0	--- U
22. 2,6-Dinitrotoluene	3.88	10.0	--- U
23. Di-N-Octyl Phthalate	2.81	10.0	--- U
24. Bis-(2-Ethylhexyl) Phthalate	9.97	15.0	--- U
25. Fluoranthene	3.92	10.0	--- U
26. Fluorene	2.95	10.0	--- U
27. Hexachlorobenzene	2.61	10.0	--- U
28. Hexachlorocyclopentadiene	4.16	10.0	--- U
29. Indeno[1,2,3-Cd]pyrene	2.91	10.0	--- U
30. Isophorone	3.74	10.0	--- U
31. Nitrobenzene	2.85	10.0	--- U
32. N-Nitrosodimethylamine	4.25	10.0	--- U
33. N-Nitrosodiphenylamine	3.95	10.0	--- U
34. N-Nitrosodi-N-Propylamine	4.06	10.0	--- U
35. Phenanthrene	3.24	10.0	--- U
36. Pyrene	3.63	10.0	--- U
37. 4-Chloro-3-Methylphenol	3.79	20.0	--- U
38. 2-Chlorophenol	2.75	10.0	--- U
39. O-Cresol	3.68	10.0	--- U
40. P-Cresol	4.12	10.0	--- U
41. 2,4-Dichlorophenol	5.19	10.0	--- U
42. 2,6-Dichlorophenol	4.89	10.0	--- U
43. 2,4-Dimethylphenol	3.21	10.0	--- U
44. 4,6-Dinitro-2-Methylphenol	4.77	50.0	--- U
45. 2,4-Dinitrophenol	4.37	50.0	--- U
46. Ethyl Methanesulfonate	5.26	10.0	--- U
47. Methyl Methanesulfonate	4.92	10.0	--- U
48. 2-Nitrophenol	3.64	10.0	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 E
ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/23/10
DATE ANALYZED: 03/11/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-18D
49. 4-Nitrophenol	3.17	50.0	--- U
50. Pentachlorophenol	5.33	25.0	--- U
51. Phenol	1.86	10.0	--- U
52. 2,3,4,6-Tetrachlorophenol	3.12	10.0	--- U
53. 2,4,5-Trichlorophenol	4.17	10.0	--- U
54. 2,4,6-Trichlorophenol	3.84	10.0	--- U
55. Acetophenone	2.89	10.0	--- U
56. 2-Acetylaminofluorene	3.98	20.0	--- U
57. 4-Aminobiphenyl	4.12	20.0	--- U
58. Benzyl Alcohol	4.47	20.0	--- U
59. 4-Chloroaniline	3.36	20.0	--- U
60. Chlorobenzilate	5.12	10.0	--- U
61. Diallate	2.98	10.0	--- U
62. Dibenzofuran	4.28	10.0	--- U
63. 3,3-Dichlorobenzidine	4.22	20.0	--- U
64. Dimethoate	3.98	20.0	--- U
65. P-Dimethylaminoazobenzene	2.89	10.0	--- U
66. 7,12-Dimethylbenz[a]anthracene	5.26	10.0	--- U
67. 3,3-Dimethylbenzadine	3.21	10.0	--- U
68. 1,3-Dinitrobenzene	2.89	20.0	--- U
69. Diphenylamine	5.10	10.0	--- U
70. Disulfoton	4.28	10.0	--- U
71. Famphur	3.98	20.0	--- U
72. Hexachloropropene	4.31	10.0	--- U
73. Isosafrole	2.88	10.0	--- U
74. Kepone	2.78	20.0	--- U
75. Methapyrilene	3.54	100.0	--- U
76. 3-Methylchloroanthrene	4.21	10.0	--- U
77. 2-Methylnaphthalene	3.79	10.0	--- U
78. Methyl Parathion	4.32	10.0	--- U
79. m-Cresol	3.81	10.0	--- U
80. 1,4-Naphthoquinone	4.00	10.0	--- U
81. 1-Naphthylamine	5.61	10.0	--- U
82. 2-Naphthylamine	4.62	10.0	--- U
83. 2-Nitroaniline	3.61	50.0	--- U
84. 3-Nitroaniline	4.81	50.0	--- U
85. 4-Nitroaniline	4.22	20.0	--- U
86. 5-Nitro-O-Toluidine	4.01	10.0	--- U
87. N-Nitrosodi-n-butylamine	3.63	10.0	--- U
88. N-Nitrosodiethylamine	3.83	20.0	--- U
89. N-Nitrosomethylethylamine	3.83	10.0	--- U
90. N-Nitrosopiperidine	5.19	20.0	--- U
91. N-Nitrosopyrrolidine	2.89	10.0	--- U
92. Parathion	3.12	10.0	--- U
93. Pentachlorobenzene	3.92	10.0	--- U
94. Pentachloronitrobenzene	3.71	20.0	--- U
95. Phenacetin	4.41	20.0	--- U
96. 1,4 Benzenediamine	2.99	10.0	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 E
ANALYST: CHS
DATE COLLECTED: 02/17/10
DATE EXTRACTED: 02/23/10
DATE ANALYZED: 03/11/10
DATE REPORTED: 03/19/10

REVIEWED BY:

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	MW-18D
97. Phorate	3.86	10.0	--- U
98. Pronamide	3.69	10.0	--- U
99. Safrole	4.12	10.0	--- U
100. 1,2,4,5-Tetrachlorobenzene	5.01	10.0	--- U
101. Thionazin	4.62	20.0	--- U
102. O-Toluidine	4.11	10.0	--- U
103. 1,3,5-Trinitrobenzene	3.98	10.0	--- U
104. 0,0,0-Triethyl Phosphorothioate	3.61	10.0	--- U
105. Hexachloroethane	1.49	10.0	--- U
106. Isodrin	3.11	20.0	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 E

ANALYST: MAO
DATE COLLECTED: 02/17/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-18D
1. Chloromethane	0.77	1.0	--- U
2. Vinyl Chloride	0.63	1.0	--- U
3. Bromomethane	0.67	10.0	--- U
4. Chloroethane	0.48	10.0	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U
7. Acetone	9.06	100.0	--- U
8. Iodomethane	0.26	10.0	--- U
9. Carbon Disulfide	0.23	100.0	--- U
10. Methylene Chloride	0.64	1.0	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U
12. 1,1-Dichloroethane	0.20	5.0	0.90 J
13. Vinyl Acetate	0.20	50.0	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	0.60 J
15. 2-Butanone	2.21	100.0	--- U
16. Bromochloromethane	0.27	3.0	--- U
17. Chloroform	0.25	5.0	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U
20. Benzene	0.24	1.0	--- U
21. 1,2-Dichloroethane	0.21	1.0	--- U
22. Trichloroethene	0.23	1.0	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U
24. Bromodichloromethane	0.21	1.0	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U
27. Toluene	0.23	1.0	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U
30. Tetrachloroethene	0.17	1.0	--- U
31. 2-Hexanone	1.57	50.0	--- U
32. Dibromochloromethane	0.24	3.0	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U
34. Chlorobenzene	0.30	3.0	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U
36. Ethylbenzene	0.21	1.0	--- U
37. Xylenes	0.68	5.0	--- U
38. Dibromomethane	0.28	10.0	--- U
39. Styrene	0.19	1.0	--- U
40. Bromoform	0.20	3.0	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U
46. Acrylonitrile	2.72	200.0	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U
48. Acrolein	40.57	50.0	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 E
ANALYST: MAO
DATE COLLECTED: 02/17/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/19/10

REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-18D
49. Allyl Chloride	0.20	10.0	--- U
50. Chloroprene	0.21	20.0	--- U
51. 1,3-Dichlorobenzene	0.41	5.0	--- U
52. Dichlorodifluoromethane	0.51	5.0	--- U
53. 1,3-Dichloropropane	0.28	1.0	--- U
54. 2,2-Dichloropropane	0.17	15.0	--- U
55. 1,1-Dichloropropene	0.22	5.0	--- U
56. Ethyl Methacrylate	0.16	10.0	--- U
57. Hexachlorobutadiene	0.57	10.0	--- U
58. Isobutyl Alcohol	12.80	100.0	--- U
59. Methacrylonitrile	1.93	100.0	--- U
60. Methyl Methacrylate	0.25	30.0	--- U
61. Naphthalene	0.47	10.0	--- U
62. Propionitrile	3.26	150.0	--- U
63. 1,2,4-Trichlorobenzene	0.50	10.0	--- U
64. Acetonitrile	36.29	50.0	--- U

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

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 E **Week: 6**

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Cyanide	Metals	Sulfide	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	EPA 8270C	8270C Dup. 1	EPA 8081B	8260B App. II	8260 App. II 1	8151A Landfill	8151A Duplicate
CHLORINE NEUTRALIZED AT COLLECTION																					
pH CHECK (LAB)							12	12	9				12	12				12	12		
CONTAINER TYPE, P/G						P	P	P	P	P	P		G	G	G	G	G	G	G	G	G
CHEMICAL PRESERVATION						A	D	A	F D	A	A		E	E	A	A	A	E	E	A	A
MW-18D 02	1710	0830		7.65	11	G	G	G	G	G	G	G			G	G	G	G	G	G	G
G-13					4																
G-13D					4																

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
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)
H Hogge / Fist

SAMPLES RECEIVED IN LAB AT 02 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
BOB H Hogge 02	1710		
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
			2/17 350
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:
G-13 & G-13D DAMAGED

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

№ 197493

Environment 1, Incorporated

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

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

REC'D MAR 24 2010

Drinking Water ID: 37715
Wastewater ID: 10

ID#: 6015 D

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/17/10
DATE REPORTED : 02/24/10

REVIEWED BY: _____

PARAMETERS	MDL	SWSL	MW-2A	MW-3D	MW-6D	MW-17	MW-2AD	Analysis Date	Analyst	Method Code
BOD, mg/l	2.0	2.0	7.8	--- U	--- U	3.4	--- U	02/18/10	TRB	SM5210B
COD, mg/l	10.0	10.0	13	10	11	--- U	12	02/19/10	TRB	HACH8000
Nitrate Nitrogen as N, mg/l	0.03	10.0	--- U	0.07 J	--- U	0.13 J	--- U	02/19/10	ANO	EPA353.2
Total Organic Carbon, mg/l	0.15	1.0	1.86	--- U	2.14	--- U	1.04	02/18/10	SEJ	SM5310C
Total Alkalinity, mg/l	1.0	1.0	128	63	269	59	284	02/18/10	TRB	SM2320B
Chloride, mg/l	5.0	5.0	5	9	23	7	6	02/21/10	JIJ	SM4500-CLB
Sulfate, mg/l	5.0	250.0	--- U	12.2 J	21.3 J	28.7 J	23.0 J	02/22/10	TRB	SM426C
Turbidity, NTU	1.0	1.0	190	17	18	100	45	02/18/10	JIJ	SM2130B
Dissolved Oxygen, mg/l			0.89	1.19	0.89	0.36	0.29	02/17/10	RJH	SM4500OG
Carbon Dioxide, mg/l			292	123	421	75	200	02/18/10	TRB	SM4500CO2C
ORP, mv			60.6	231.1	95.7	122.5	91.1	02/17/10	RJH	SM2580B

J = Between MDL and SWSL, U = Below ALL Quanititation 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#: 6015 D

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/17/10
DATE REPORTED : 02/24/10

REVIEWED BY: _____

PARAMETERS	MDL	SWSL	MW-3AS	MW-18S	MW-18D	G-13	Analysis Date	Analyst	Method Code
BOD, mg/l	2.0	2.0	15	2.6	--- U	Missing	02/18/10	TRB	SM5210B
COD, mg/l	10.0	10.0	38	13	11	Missing	02/19/10	TRB	HACH8000
Nitrate Nitrogen as N, mg/l	0.03	10.0	0.04 J	--- U	--- U	Missing	02/19/10	ANO	EPA353.2
Total Organic Carbon, mg/l	0.15	1.0	7.50	5.80	1.09	Missing	02/18/10	SEJ	SM5310C
Total Alkalinity, mg/l	1.0	1.0	435	116	76	Missing	02/18/10	TRB	SM2320B
Chloride, mg/l	5.0	5.0	19	5	10	Missing	02/21/10	JIJ	SM4500-CLB
Sulfate, mg/l	5.0	250.0	--- U	--- U	9.9 J	Missing	02/22/10	TRB	SM426C
Turbidity, NTU	1.0	1.0	400	210	3.4	Missing	02/18/10	JIJ	SM2130B
Dissolved Oxygen, mg/l			0.61	3.18	1.93	Missing	02/17/10	RJH	SM4500OG
Carbon Dioxide, mg/l			768	82	55	Missing	02/18/10	TRB	SM4500CO2C
ORP, mv			42.4	56.5	154.4	Missing	02/17/10	RJH	SM2580B

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

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 D **Week:** 6

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	BOD	COD	Nitrate	TOC	Alkalinity	Chloride	Sulfate	Turbidity	DO	CO2	ORP
CHLORINE NEUTRALIZED AT COLLECTION																
pH CHECK (LAB)							<2		<2							
CONTAINER TYPE, P/G						P	P	P	P	P	P	P	P	P	P	P
CHEMICAL PRESERVATION						A	C	A	C	A	A	A	A	A	A	A
MW-2A	02	1710	1000		1255	9	G	G	G	G	G	G	G	G	G	G	G
MW-6D	02	1710	1335		1499	9	G	G	G	G	G	G	G	G	G	G	G
MW-17	02	1710	1135		1441	9	G	G	G	G	G	G	G	G	G	G	G
MW-2AD	02	1710	1045		1655	9	G	G	G	G	G	G	G	G	G	G	G
MW-3AS	02	1710	1300		1329	9	G	G	G	G	G	G	G	G	G	G	G
~~MW-3AD~~ 3D	02	1710	1225		1486	9	G	G	G	G	G	G	G	G	G	G	G
MW-18S	02	1710	0910		1296	8	G	G	G	G	G	G	G	G	G	G	G
MW-18D	02	1710	0830		965	9	G	G	G	G	G	G	G	G	G	G	G
~~G-13~~						9											

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
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) N Boone F ot

SAMPLES RECEIVED IN LAB AT 0.3 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
N Boone 02	1710		
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS: G-13 DAMAGED

MW 3AD CHANGED to MW 3D
PER JOAN Smyth
G.N. RICHARDSON

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

№ 197494

Client Name: Environment 1, Inc.
Contact: Steve Jones
Address: PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

Lab Proj #: P1002248
Report Date: 03/11/10
Client Proj Name: Halifax
Client Proj #: 6015

Laboratory Results

Total pages in data package: 10

Lab Sample #	Client Sample ID
P1002248-01	W18S
P1002248-02	W2AD
P1002248-03	WC2A
P1002248-04	MW3D
P1002248-05	W18D
P1002248-06	W3AS
P1002248-07	MW17
P1002248-08	MW6D

Microseeps test results meet all the requirements of the NELAC standards or provide reasons and/or justification if they do not.

Approved By: Debbie Hallo (H&H) ***Date:*** 3.11.10

Project Manager: Debbie Hallo

The analytical results reported here are reliable and usable to the precision expressed in this report. As required by some regulating authorities, a full discussion of the uncertainty in our analytical results can be obtained at our web site or through customer service. Unless otherwise specified, all results are reported on a wet weight basis.

As a valued client we would appreciate your comments on our service.
Please call customer service at (412)826-5245 or email customerservice@microseeps.com.

Case Narrative: The bubblestrip analyses for sample W2AD were performed outside of holding times

Client Name: Environment 1, Inc.
Contact: Steve Jones
Address: PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

Lab Proj #: P1002248
Report Date: 03/11/10
Client Proj Name: Halifax
Client Proj #: 6015

Sample Description	Matrix	Lab Sample #	Sampled Date/Time	Received
W18S	Vapor	P1002248-01	17 Feb. 10	22 Feb. 10 9:45

Analyte(s)	Result	PQL	Units	Method #	Analysis Date	By
RiskAnalysis						
N Ethane	0.018	0.010	ug/L	AM20GAX	2/23/10	sl
N Ethene	0.011	0.010	ug/L	AM20GAX	2/23/10	sl
N Hydrogen	<0.600	0.600	nM	AM20GAX	2/23/10	sl
N Methane	2900.000	0.015	ug/L	AM20GAX	2/23/10	sl
SemiVolatiles						
N Acetic Acid	0.079	0.070	mg/L	AM23G	2/23/10	kb
N Butyric Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Lactic Acid	0.230	0.100	mg/L	AM23G	2/23/10	kb
N Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Propionic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Pyruvic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb

N - NELAC certified analysis

Client Name: Environment 1, Inc.
Contact: Steve Jones
Address: PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

Lab Proj #: P1002248
Report Date: 03/11/10
Client Proj Name: Halifax
Client Proj #: 6015

Sample Description	Matrix	Lab Sample #	Sampled Date/Time	Received
W2AD	Vapor	P1002248-02	17 Feb. 10	22 Feb. 10 9:45

Analyte(s)	Result	PQL	Units	Method #	Analysis Date	By
RiskAnalysis						
N Ethane	0.120	0.010	ug/L	AM20GAX	3/8/10	sl
N Ethene	1.000	0.010	ug/L	AM20GAX	3/8/10	sl
N Hydrogen	1.100	0.600	nM	AM20GAX	3/8/10	sl
N Methane	780.000	0.015	ug/L	AM20GAX	3/8/10	sl
SemiVolatiles						
N Acetic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Butyric Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Lactic Acid	0.110	0.100	mg/L	AM23G	2/23/10	kb
N Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Propionic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Pyruvic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb

N - NELAC certified analysis

Client Name: Environment 1, Inc.
Contact: Steve Jones
Address: PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

Lab Proj #: P1002248
Report Date: 03/11/10
Client Proj Name: Halifax
Client Proj #: 6015

Sample Description	Matrix	Lab Sample #	Sampled Date/Time	Received
WC2A	Vapor	P1002248-03	17 Feb. 10	22 Feb. 10 9:45

Analyte(s)	Result	PQL	Units	Method #	Analysis Date	By
RiskAnalysis						
N Ethane	0.091	0.010	ug/L	AM20GAX	2/23/10	sl
N Ethene	0.029	0.010	ug/L	AM20GAX	2/23/10	sl
N Hydrogen	<0.600	0.600	nM	AM20GAX	2/23/10	sl
N Methane	1500.000	0.015	ug/L	AM20GAX	2/23/10	sl
SemiVolatiles						
N Acetic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Butyric Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Lactic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Propionic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Pyruvic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb

Client Name: Environment 1, Inc.
Contact: Steve Jones
Address: PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

Lab Proj #: P1002248
Report Date: 03/11/10
Client Proj Name: Halifax
Client Proj #: 6015

Sample Description	Matrix	Lab Sample #	Sampled Date/Time	Received
MW3D	Vapor	P1002248-04	17 Feb. 10	22 Feb. 10 9:45

Analyte(s)	Result	PQL	Units	Method #	Analysis Date	By
RiskAnalysis						
N Ethane	<0.010	0.010	ug/L	AM20GAX	2/23/10	sl
N Ethene	<0.010	0.010	ug/L	AM20GAX	2/23/10	sl
N Hydrogen	0.670	0.600	nM	AM20GAX	2/23/10	sl
N Methane	3000.000	0.015	ug/L	AM20GAX	2/23/10	sl
SemiVolatiles						
N Acetic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Butyric Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Lactic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Propionic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Pyruvic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb

Client Name: Environment 1, Inc.
Contact: Steve Jones
Address: PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

Lab Proj #: P1002248
Report Date: 03/11/10
Client Proj Name: Halifax
Client Proj #: 6015

Sample Description	Matrix	Lab Sample #	Sampled Date/Time	Received
W18D	Vapor	P1002248-05	17 Feb. 10	22 Feb. 10 9:45

Analyte(s)	Result	PQL	Units	Method #	Analysis Date	By
RiskAnalysis						
N Ethane	<0.010	0.010	ug/L	AM20GAX	2/23/10	sl
N Ethene	<0.010	0.010	ug/L	AM20GAX	2/23/10	sl
N Hydrogen	<0.600	0.600	nM	AM20GAX	2/23/10	sl
N Methane	88.000	0.015	ug/L	AM20GAX	2/23/10	sl
SemiVolatiles						
N Acetic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Butyric Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Lactic Acid	0.190	0.100	mg/L	AM23G	2/23/10	kb
N Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Propionic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Pyruvic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb

Client Name: Environment 1, Inc.
Contact: Steve Jones
Address: PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

Lab Proj #: P1002248
Report Date: 03/11/10
Client Proj Name: Halifax
Client Proj #: 6015

Sample Description	Matrix	Lab Sample #	Sampled Date/Time	Received
W3AS	Vapor	P1002248-06	17 Feb. 10	22 Feb. 10 9:45

Analyte(s)	Result	PQL	Units	Method #	Analysis Date	By
RiskAnalysis						
N Ethane	0.800	0.010	ug/L	AM20GAX	2/25/10	sl
N Ethene	0.120	0.010	ug/L	AM20GAX	2/25/10	sl
N Hydrogen	0.870	0.600	nM	AM20GAX	2/25/10	sl
N Methane	5700.000	0.015	ug/L	AM20GAX	2/25/10	sl
SemiVolatiles						
N Acetic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Butyric Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Lactic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Propionic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Pyruvic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb

N - NELAC certified analysis

Client Name: Environment 1, Inc.
Contact: Steve Jones
Address: PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

Lab Proj #: P1002248
Report Date: 03/11/10
Client Proj Name: Halifax
Client Proj #: 6015

Sample Description	Matrix	Lab Sample #	Sampled Date/Time	Received
MW17	Vapor	P1002248-07	17 Feb. 10	22 Feb. 10 9:45

Analyte(s)	Result	PQL	Units	Method #	Analysis Date	By
RiskAnalysis						
N Ethane	<0.010	0.010	ug/L	AM20GAX	2/23/10	sl
N Ethene	<0.010	0.010	ug/L	AM20GAX	2/23/10	sl
N Hydrogen	<0.600	0.600	nM	AM20GAX	2/23/10	sl
N Methane	730.000	0.015	ug/L	AM20GAX	2/23/10	sl
SemiVolatiles						
N Acetic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Butyric Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Lactic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Propionic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Pyruvic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb

N - NELAC certified analysis

Environment 1, Incorporated

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

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

REC'D MAR 24 2010

Drinking Water ID: 37715
Wastewater ID: 10

ID#: 6015 A

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/16/10
DATE REPORTED : 03/05/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	SW-1	SW-2	SW-3	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.6	6.2	7.1	02/16/10	RJH	SM4500HB
Antimony, ug/l	0.06	6.0	--- U	--- U	0.1 J	02/23/10	LFJ	EPA200.8
Arsenic, ug/l	0.17	10.0	0.5 J	0.8 J	1.8 J	02/23/10	LFJ	EPA200.8
Barium, ug/l	0.04	100.0	28.7 J	32.1 J	24.7 J	02/23/10	LFJ	EPA200.8
Beryllium, ug/l	0.06	1.0	--- U	0.1 J	0.2 J	02/23/10	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.1 J	0.1 J	0.1 J	02/23/10	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	0.2 J	0.6 J	0.5 J	02/23/10	LFJ	EPA200.8
Copper, ug/l	0.04	10.0	0.7 J	0.6 J	0.6 J	02/23/10	LFJ	EPA200.8
Total Chromium, ug/l	0.10	10.0	--- U	--- U	--- U	02/23/10	LFJ	EPA200.8
Lead, ug/l	0.04	10.0	0.4 J	0.2 J	0.1 J	02/23/10	LFJ	EPA200.8
Nickel, ug/l	0.04	50.0	0.5 J	1 J	3.1 J	02/23/10	LFJ	EPA200.8
Selenium, ug/l	0.12	10.0	--- U	2.9 J	8.5 J	02/23/10	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	0.1 J	0.1 J	0.1 J	02/23/10	LFJ	EPA200.8
Thallium, ug/l	0.03	5.0	--- U	--- U	0.1 J	02/23/10	LFJ	EPA200.8
Vanadium, ug/l	0.28	25.0	1.9 J	1.9 J	11.2 J	02/23/10	LFJ	EPA200.8
Zinc, ug/l	0.14	10.0	3.7 J	7.1 J	12	02/23/10	LFJ	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	84	380	572	02/16/10	RJH	SM2510B
Temperature, °C			8	4	4	02/16/10	RJH	SM2550B

J = Between MDL and SWSL, U = Below ALL Quanititation 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: HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 A
ANALYST: MAO
DATE COLLECTED: 02/16/10
DATE ANALYZED: 02/26/10
DATE REPORTED: 03/05/10

REVIEWED BY: _____

VOLATILE ORGANICS
EPA METHOD 8260B

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

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

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 A **Week: 6**

HALIFAX CO. LANDFILL (CLOSED MSW)
MS. GWEN MATTHEWS
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Metals	Conductivity	Temperature	EPA 8260B	8260 Dup. 1
						P	P	P	P	G	G
						A	A	A	A	E	E
SW-1	02/16/10	1210		4	4	✓	✓	✓	✓	✓	✓
SW-2	02/16/10	0850		4	4	✓	✓	✓	✓	✓	✓
SW-3	02/16/10	1055		4	4	✓	✓	✓	✓	✓	✓

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
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)
Bob Hope / Ext

SAMPLES RECEIVED IN LAB AT _____ °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bob Hope 02	16 10	[signature]	2/16 | 39
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

№ 199047

Client Name: Environment 1, Inc.
Contact: Steve Jones
Address: PO Box 7085
114 Oakmont Drive
Greenville, NC 27835

Lab Proj #: P1002248
Report Date: 03/11/10
Client Proj Name: Halifax
Client Proj #: 6015

Sample Description	Matrix	Lab Sample #	Sampled Date/Time	Received
MW6D	Vapor	P1002248-08	17 Feb. 10	22 Feb. 10 9:45

Analyte(s)	Result	PQL	Units	Method #	Analysis Date	By
RiskAnalysis						
N Ethane	0.130	0.010	ug/L	AM20GAX	2/23/10	sl
N Ethene	<0.010	0.010	ug/L	AM20GAX	2/23/10	sl
N Hydrogen	<0.600	0.600	nM	AM20GAX	2/23/10	sl
N Methane	93.000	0.015	ug/L	AM20GAX	2/23/10	sl
SemiVolatiles						
N Acetic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Butyric Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Hexanoic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N i-Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Lactic Acid	<0.100	0.100	mg/L	AM23G	2/23/10	kb
N Pentanoic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Propionic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb
N Pyruvic Acid	<0.070	0.070	mg/L	AM23G	2/23/10	kb

N - NELAC certified analysis

Microseeps Lab. Proj. # 110772[illegible]

CHAIN - OF - CUSTODY RECORD

Microseeps COC cont. # 24 525

Phone: (412) 826-5245 | Microseeps, Inc. - 220 William Pitt Way - Pittsburgh, PA 15238 | Fax No. : (412) 826-3433

Company : ENVIRONMENT 1

Co. Address : 114 OAKMONT DR, GREENVILLE, NC

Phone # : 252-756-6208 Fax #: 252-756-0673

Proj. Manager : STEVE JONES

Proj. Name/Number : HALIFAX COUNTY

Sampler's signature :

Cooler Temp.

Parameters Requested

Results to : ENVIRONMENT 1, PO BOX 7085, GREENVILLE, NC 27835

Invoice to : SAME

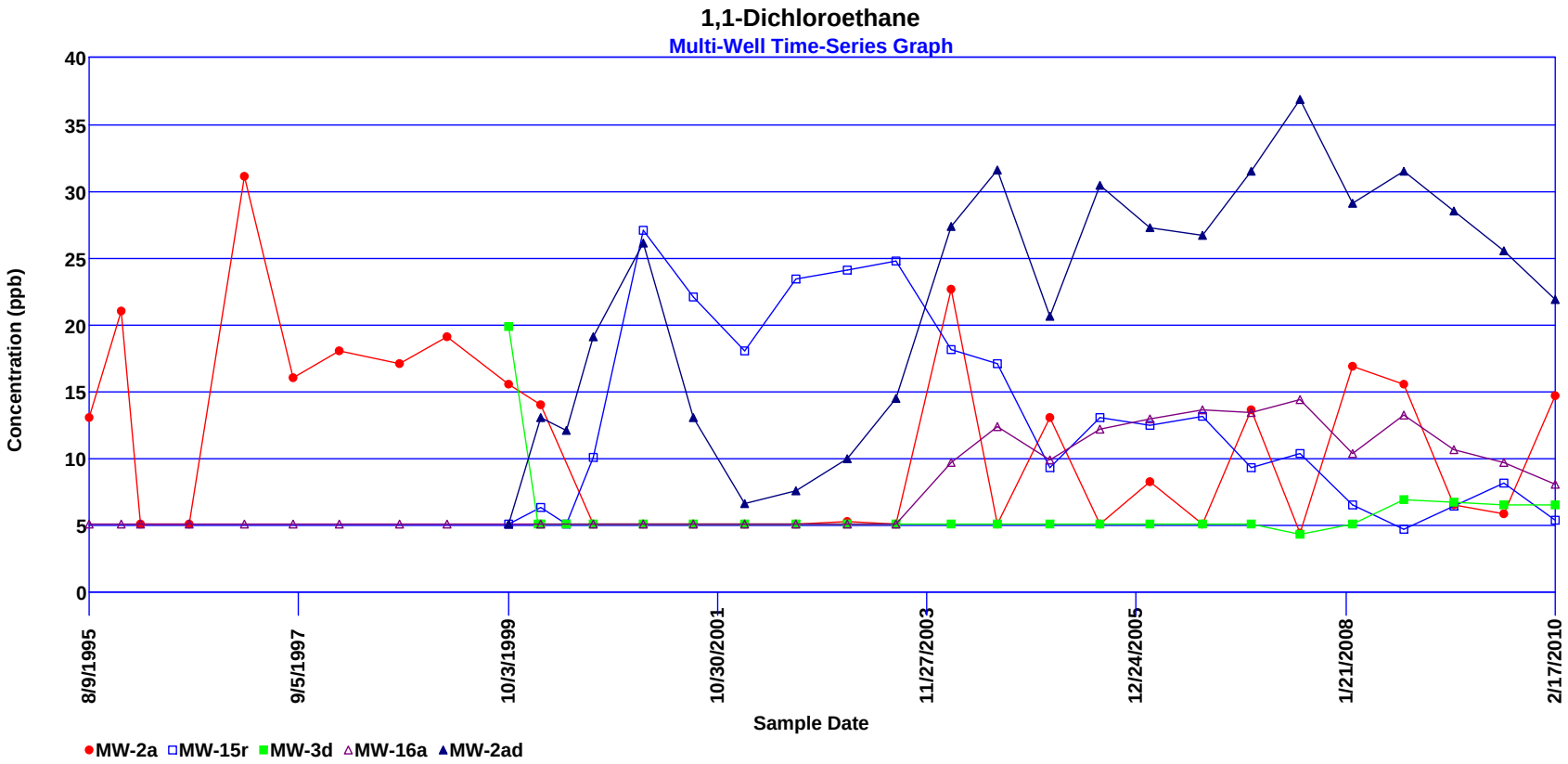
Sample ID	Sample Description	Sample Type Water	Vapor	Solid	Date	Time	# Containers	LUFA	METHANE/ETHANE/ETHENE	HYDROGEN	Remarks
W1S	MONITORING WELL 1S	✓	✓		2/17/10		4	✓	✓	✓	LOWEST REPORTING LEVELS
W2AD	MONITORING WELL 2AD	✓	✓				4	✓	✓	✓	
WL2A	MONITORING WELL 2A	✓	✓				4	✓	✓	✓	
MW3D	MONITORING WELL 3D	✓	✓				4	✓	✓	✓	
W18D	MONITORING WELL 18D	✓	✓				4	✓	✓	✓	
W3AS	MONITORING WELL 3AS	✓	✓				4	✓	✓	✓	
MW17	MONITORING WELL 17	✓	✓				4	✓	✓	✓	
MW6D	MONITORING WELL 6D	✓	✓		↓		4	✓	✓	✓	

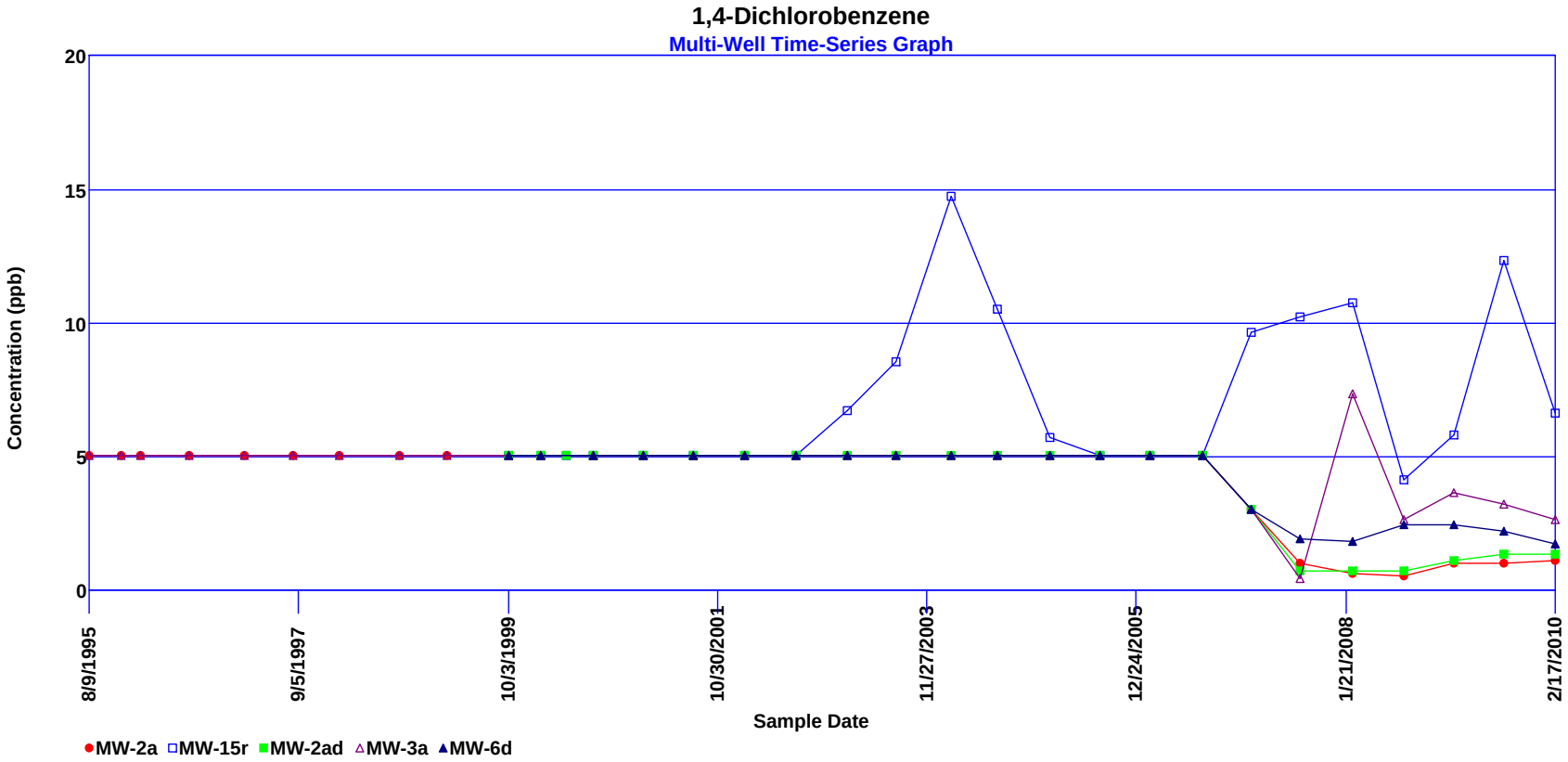
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
[signature]	ENVIRONMENT 1	2/18/10	8:30A	[signature]			
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :

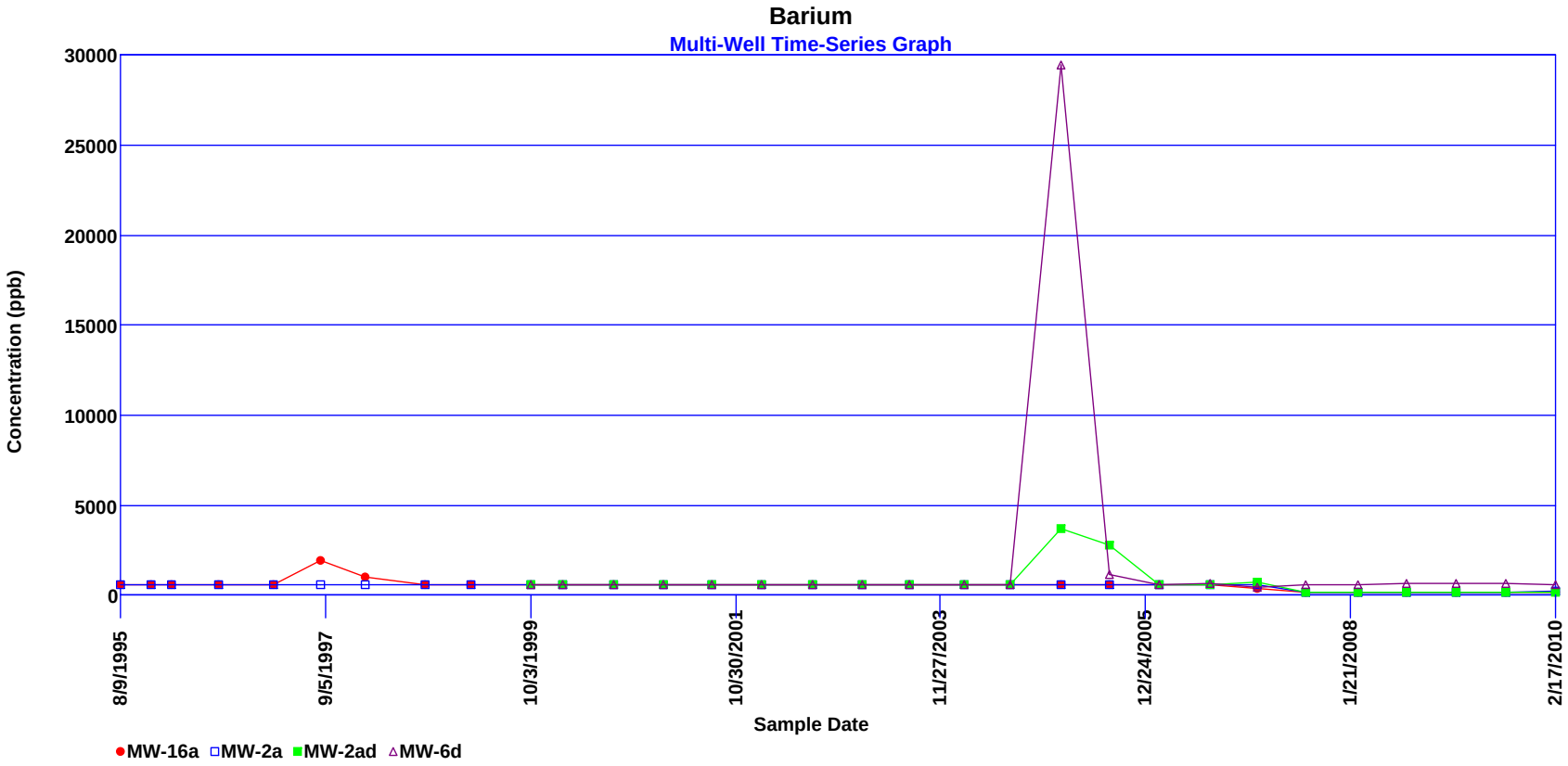
WHITE COPY : Accompany Samples YELLOW COPY : Laboratory File PINK COPY : Submitter

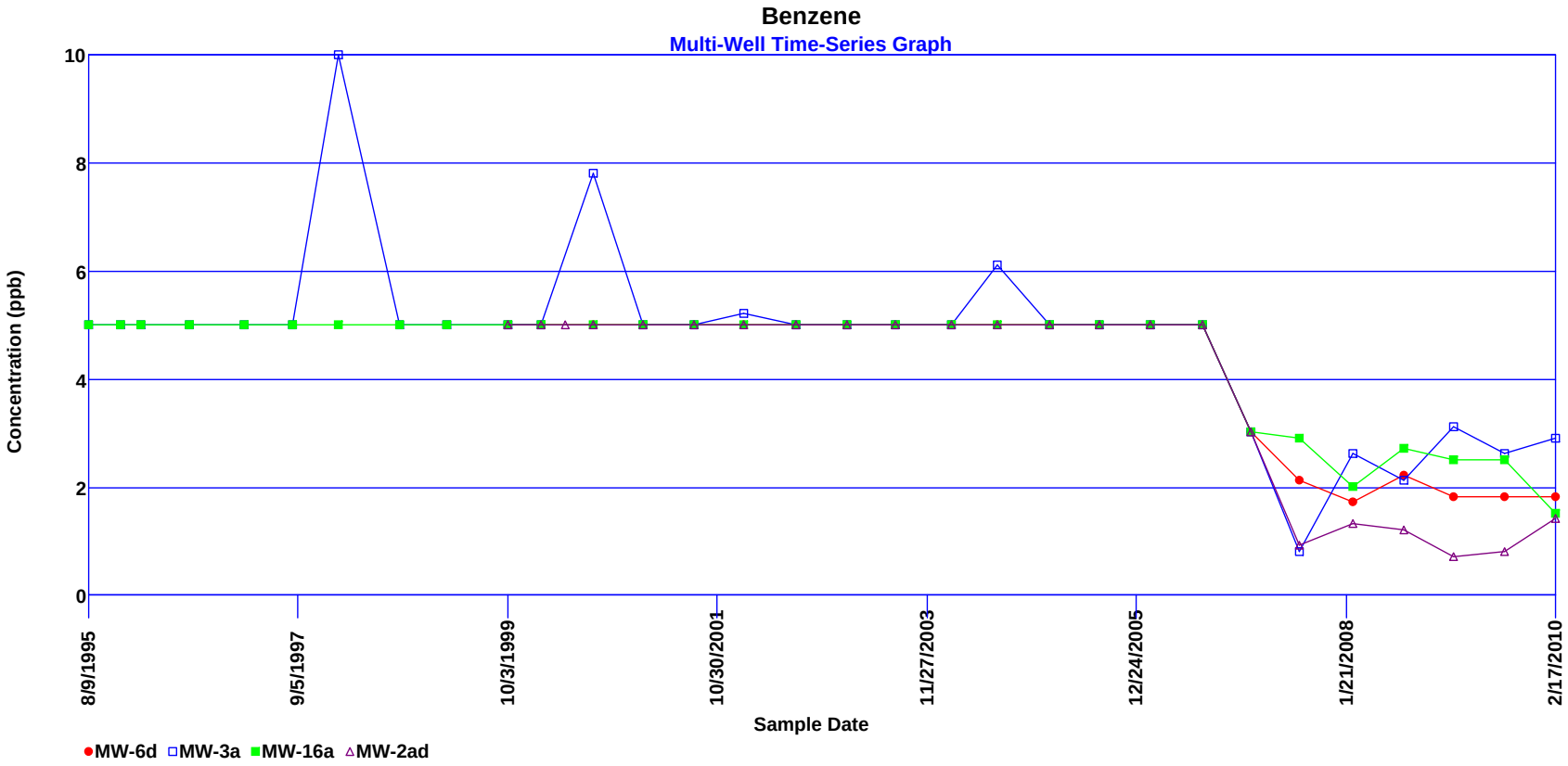
Appendix C

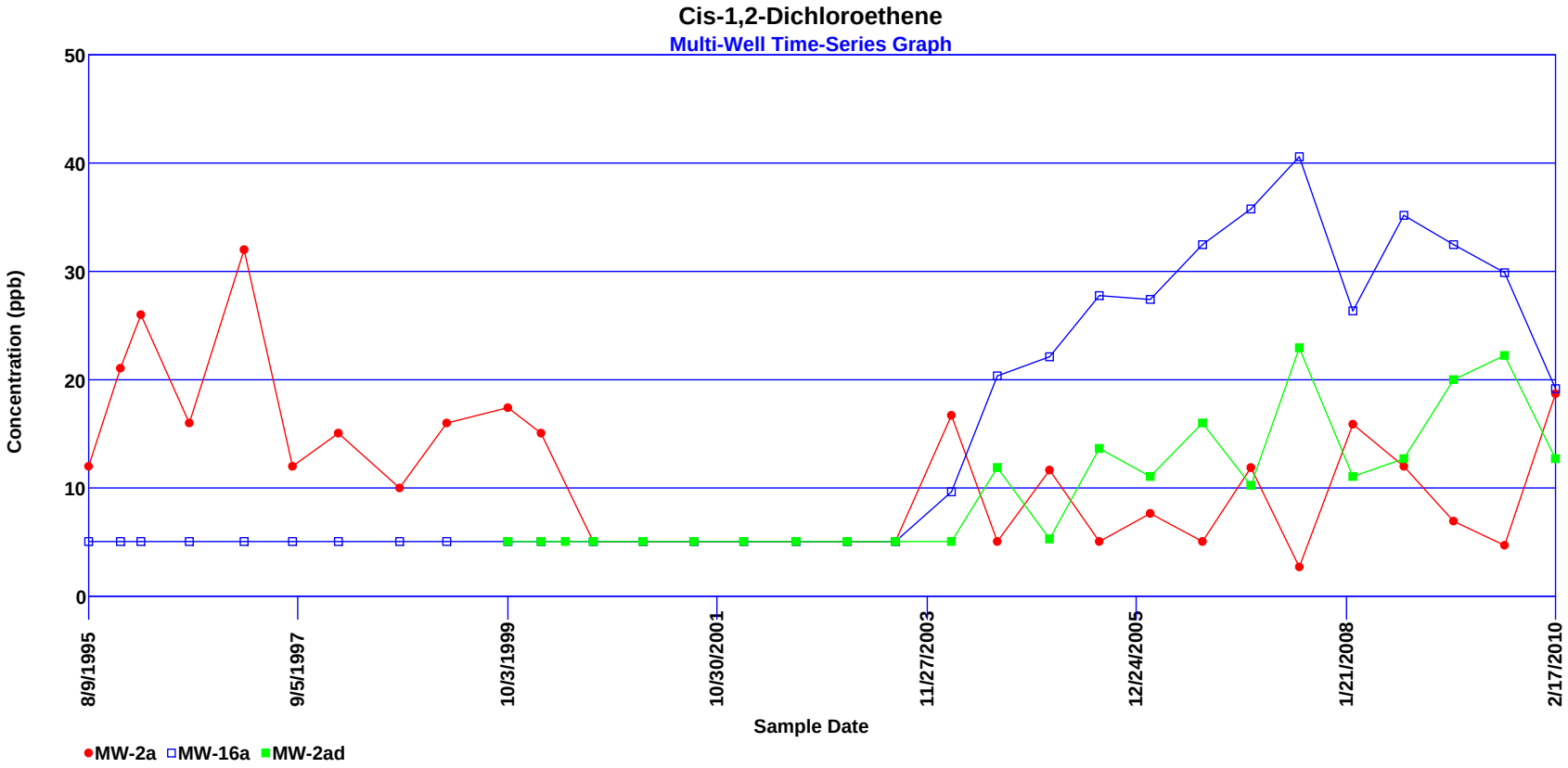
Time vs. Concentration Graphs

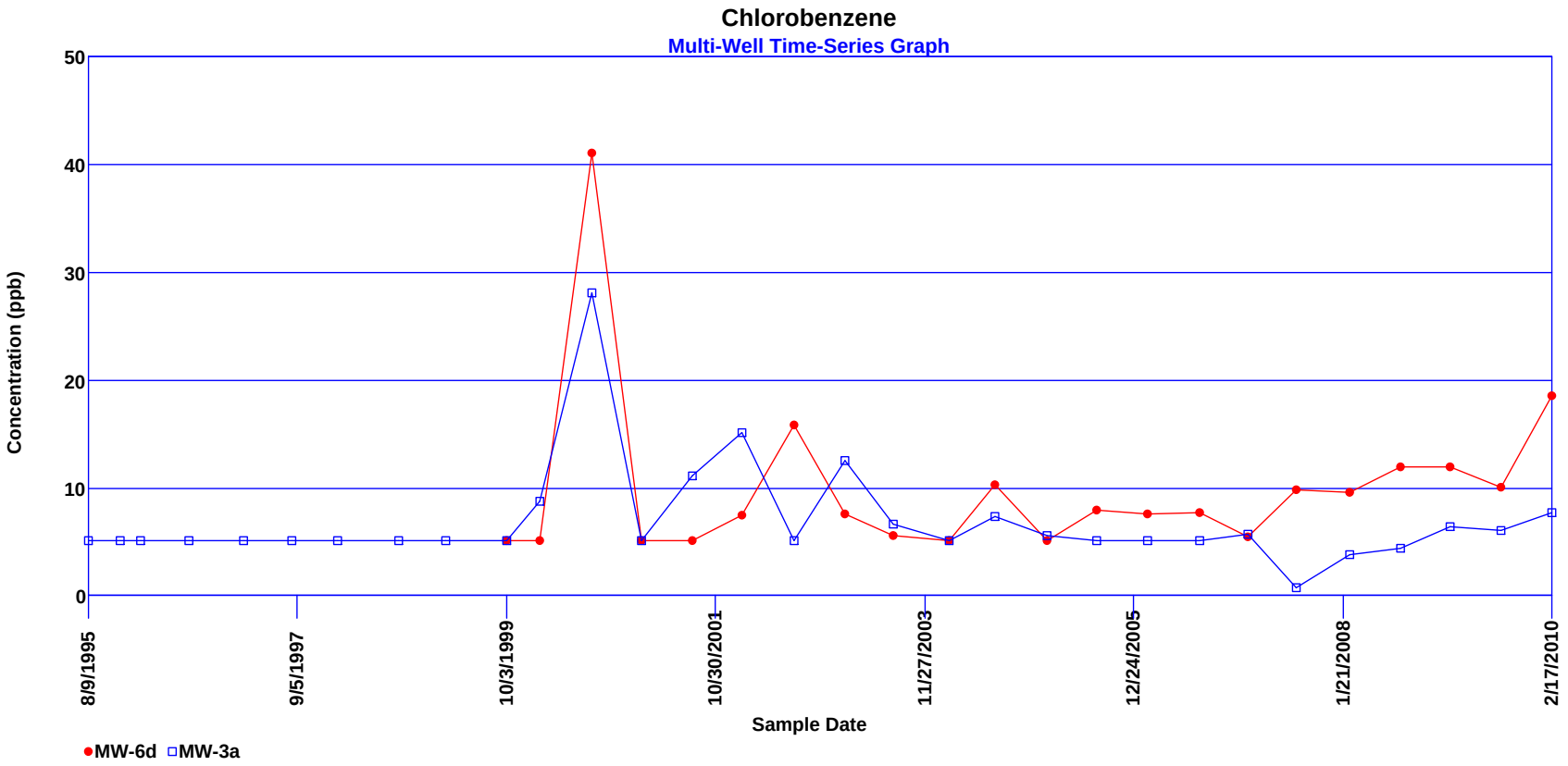

1,1-Dichloroethane
Multi-Well Time-Series Graph
Concentration (ppb)
40
35
30
25
20
15
10
5
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-2a
MW-15r
MW-3d
MW-16a
MW-2ad

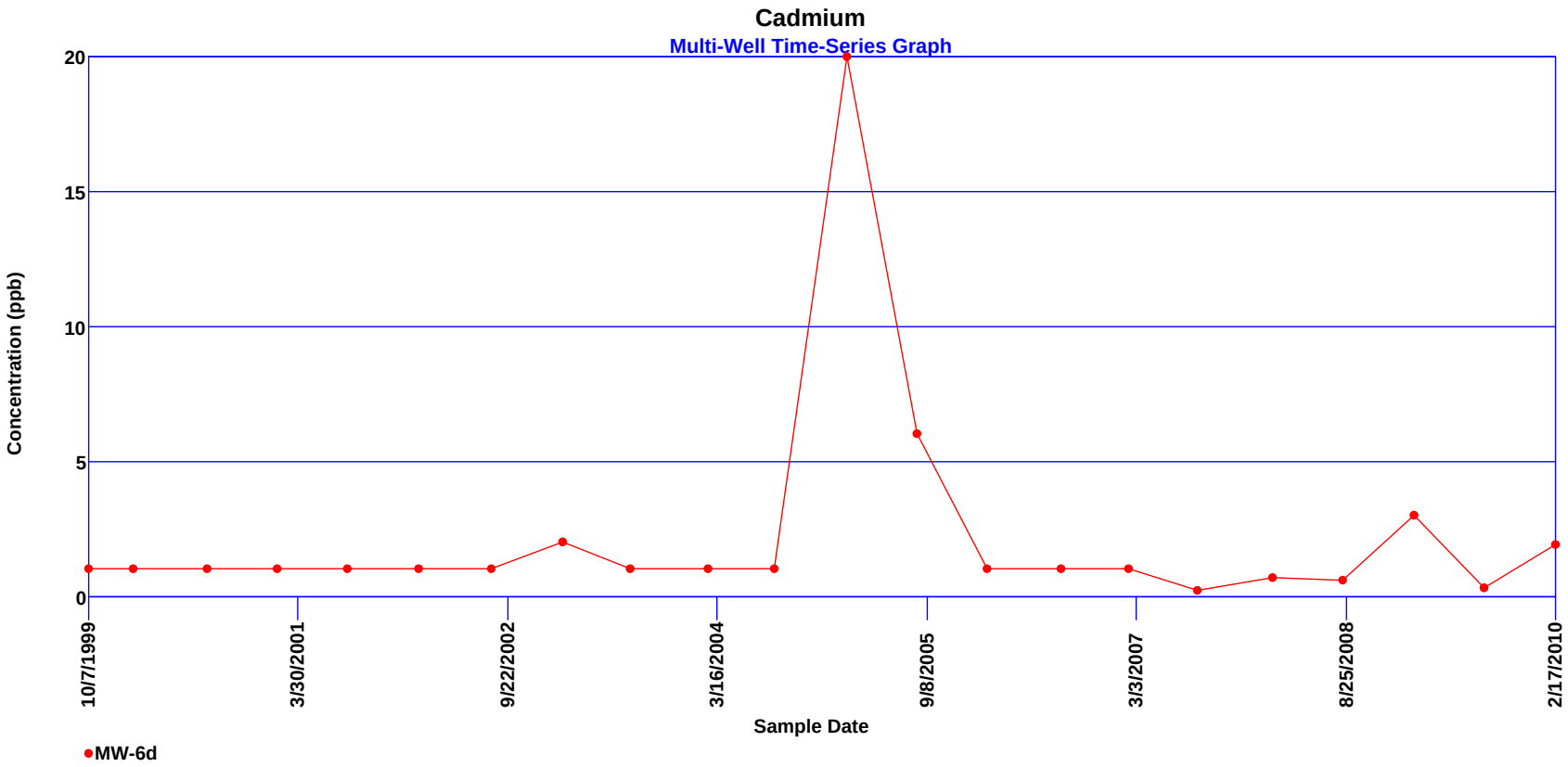

1,4-Dichlorobenzene
Multi-Well Time-Series Graph
Concentration (ppb)
20
15
10
5
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-2a
MW-15r
MW-2ad
MW-3a
MW-6d

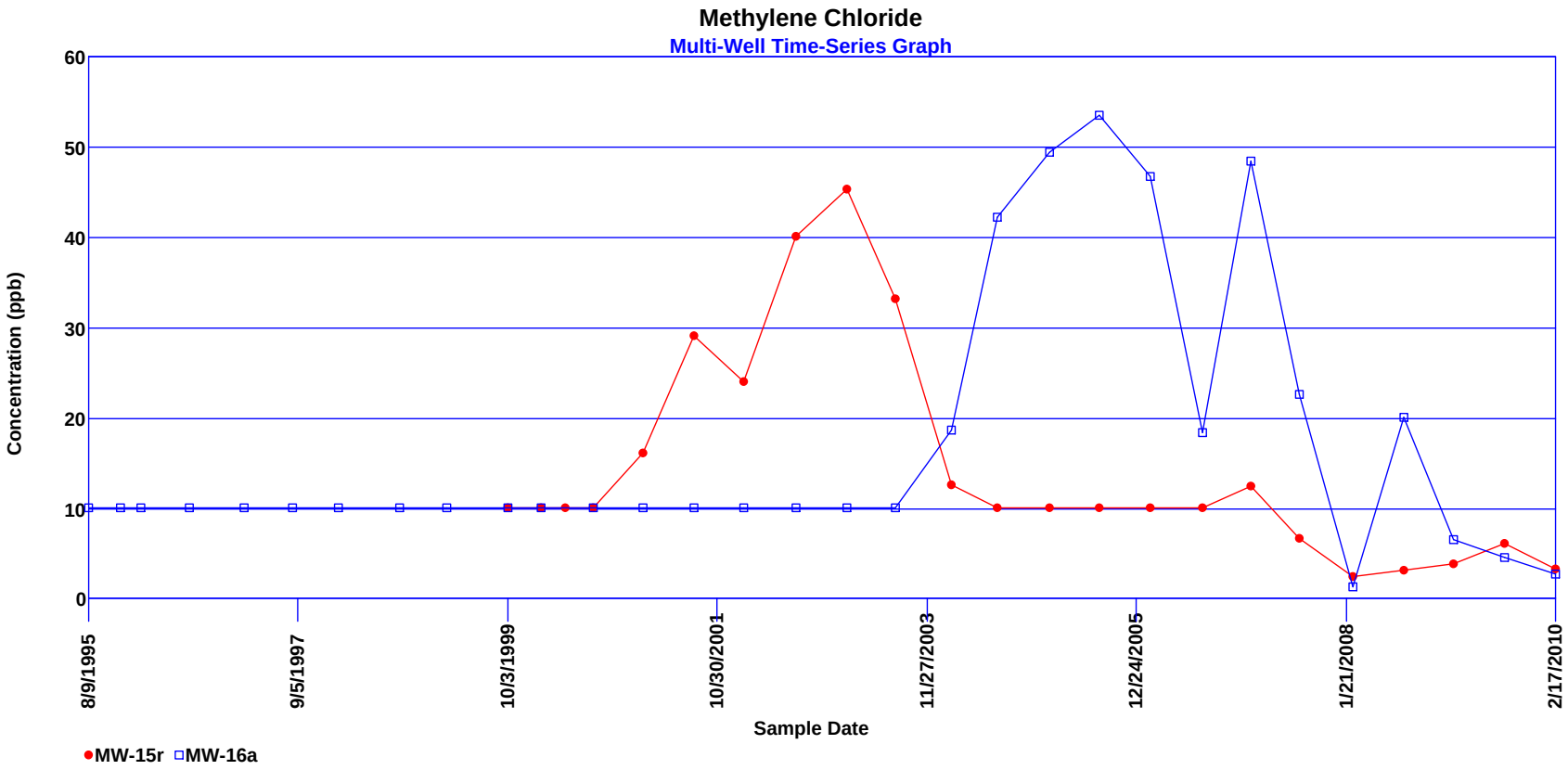

Barium
Multi-Well Time-Series Graph
30000
25000
20000
15000
10000
5000
0
Concentration (ppb)
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-16a
MW-2a
MW-2ad
MW-6d

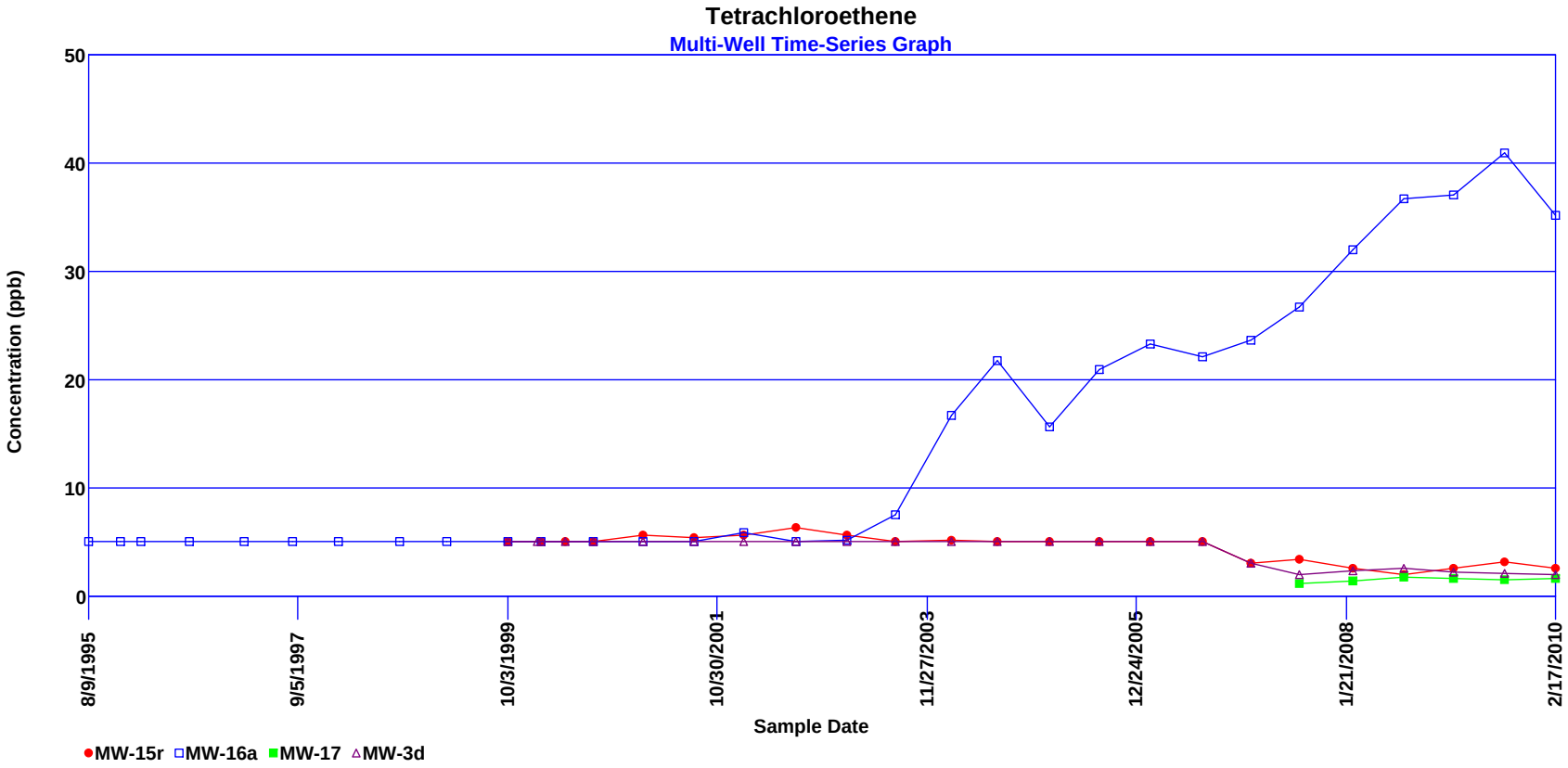

Benzene
Multi-Well Time-Series Graph
Concentration (ppb)
10
8
6
4
2
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-6d
MW-3a
MW-16a
MW-2ad

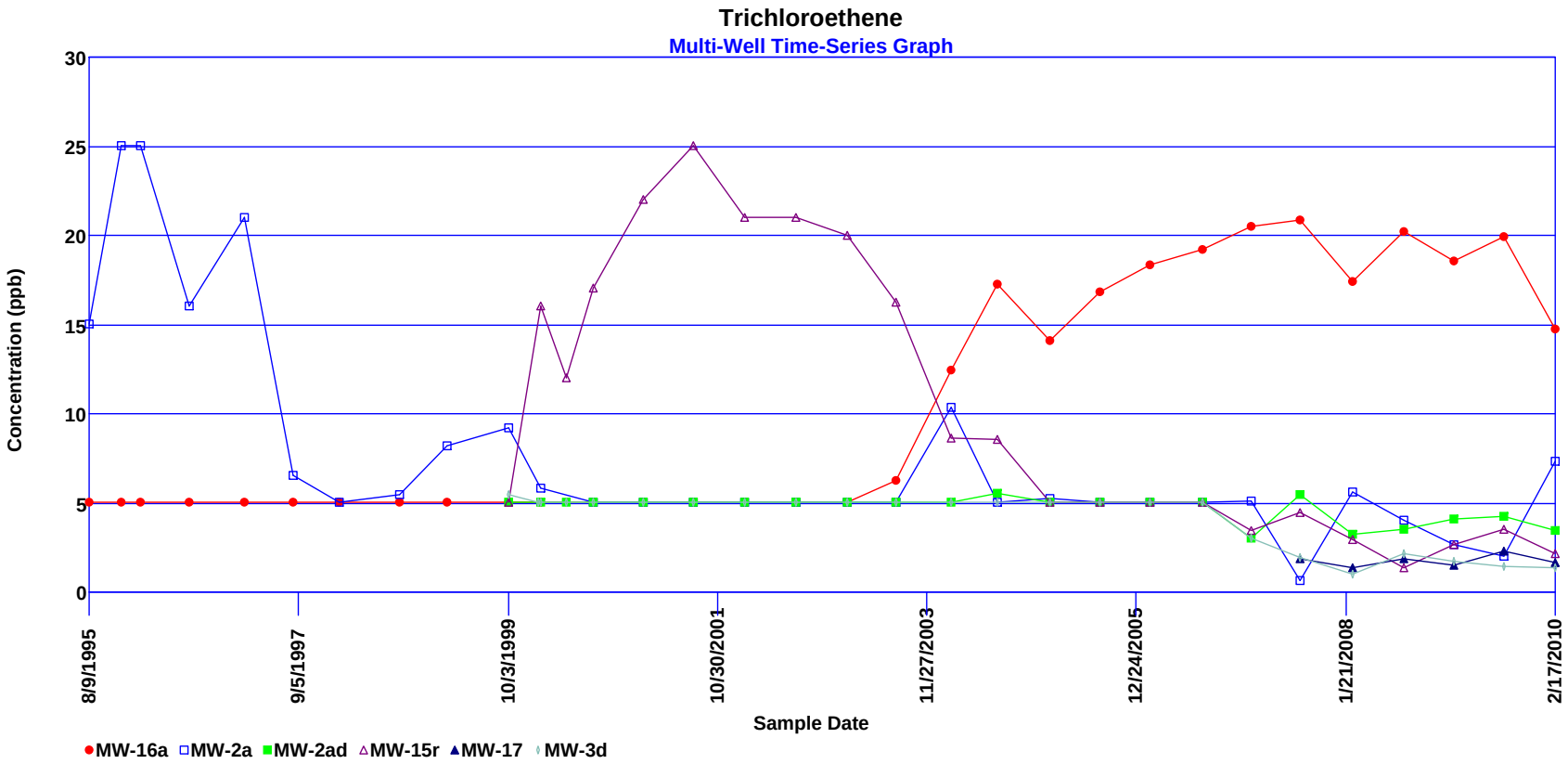

Cis-1,2-Dichloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
50
40
30
20
10
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-2a
MW-16a
MW-2ad

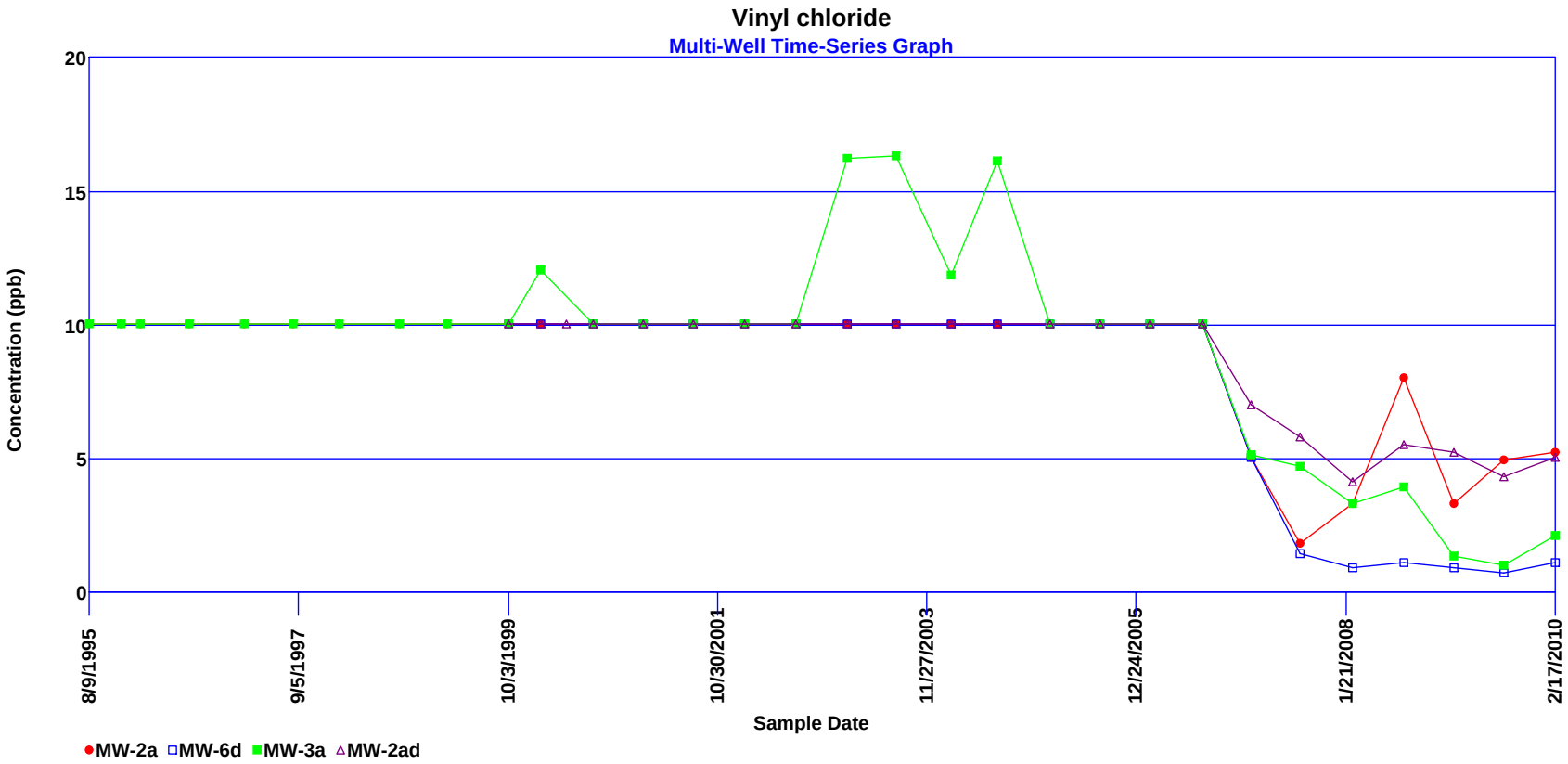

Chlorobenzene
Multi-Well Time-Series Graph
Concentration (ppb)
50
40
30
20
10
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-6d
MW-3a

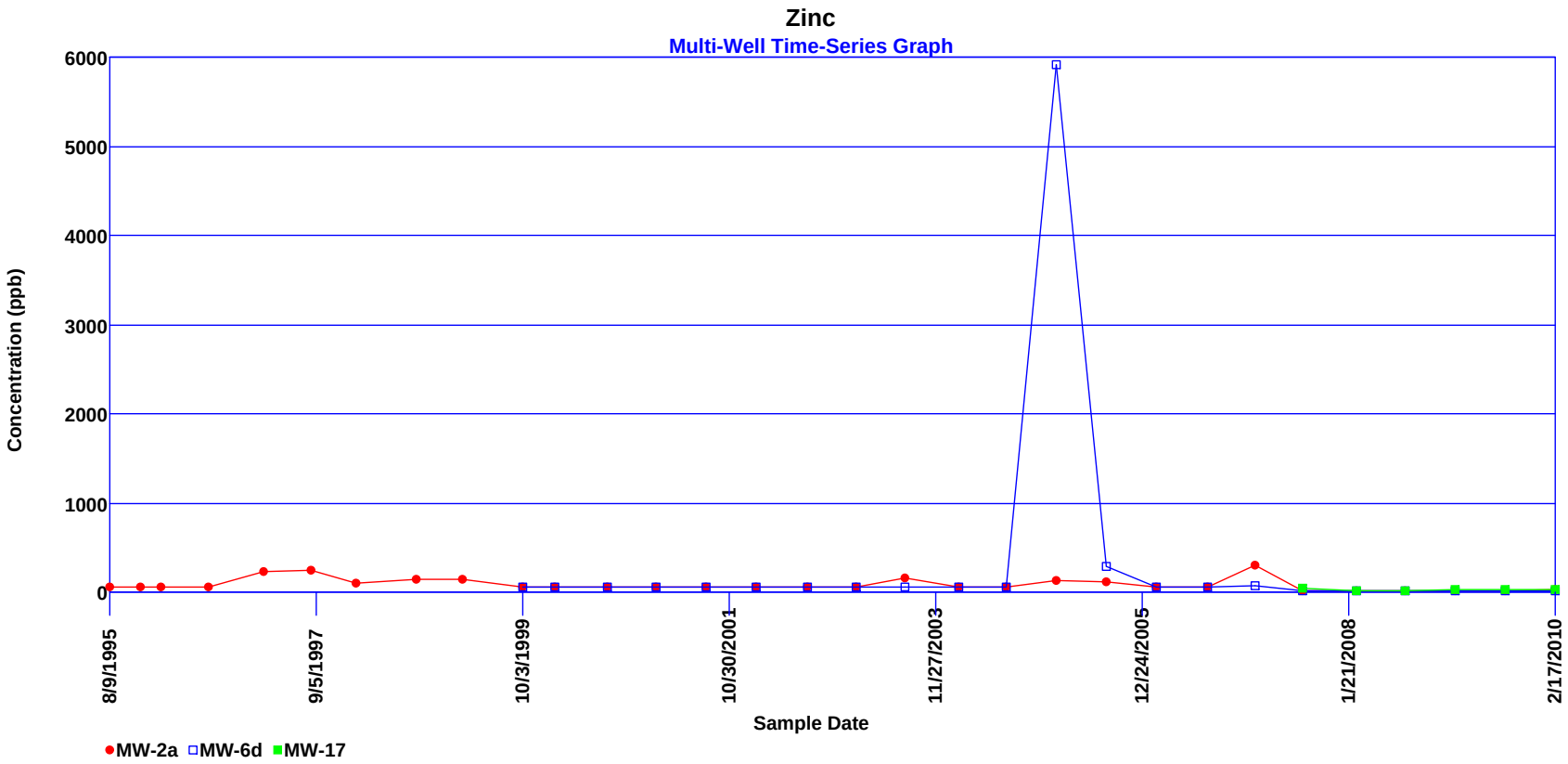

Cadmium
Multi-Well Time-Series Graph
Concentration (ppb)
20
15
10
5
0
10/7/1999
3/30/2001
9/22/2002
3/16/2004
9/8/2005
3/3/2007
8/25/2008
2/17/2010
Sample Date
MW-6d


Methylene Chloride
Multi-Well Time-Series Graph
Concentration (ppb)
60
50
40
30
20
10
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-15r
MW-16a


Tetrachloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
50
40
30
20
10
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-15r
MW-16a
MW-17
MW-3d


Trichloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
30
25
20
15
10
5
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-16a
MW-2a
MW-2ad
MW-15r
MW-17
MW-3d


Vinyl chloride
Multi-Well Time-Series Graph
Concentration (ppb)
20
15
10
5
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-2a
MW-6d
MW-3a
MW-2ad


Zinc
Multi-Well Time-Series Graph
Concentration (ppb)
6000
5000
4000
3000
2000
1000
0
8/9/1995
9/5/1997
10/3/1999
10/30/2001
11/27/2003
12/24/2005
1/21/2008
2/17/2010
Sample Date
MW-2a
MW-6d
MW-17