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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).

RECEIVED MAY 30 2008 SOLID WASTE SECTION

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).
- In accordance with NC General Statutes Chapter 89C and 89E and NC Solid Waste Management Rules 15A NCAC 13B, be sure to affix a seal to the bottom of this page, when applicable.
- 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.

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

Name: Joan Smyth, P.G. Phone: 919-828-0577 x 122

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 Closed MSW Landfill	Liles Road Halifax, NC 27839	42-04	.0500	February 18 - 19, 2008

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 Smyth, P.G.	Senior Hydrogeologist	919-828-0577 x 122
Facility Representative Name (Print)	Title	(Area Code) Telephone Number

Joan A. Smyth
Signature

5/27/08
Date

Affix NC Licensed Professional Geologist/Engineer Seal here:

NORTH CAROLINA LICENSED SEAL 1369 GEOLOGIST JOAN A. SMYTH

Revised 01/2007

Halifax County Landfill

Ground Water Monitoring Report

February 2008 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 327
Halifax, North Carolina 27839

May 2008

Richardson Smith Gardner & Associates, Inc.
Engineering and Geological Services
14 North Boylan Avenue
Raleigh, North Carolina 27603

Ground Water Monitoring Report
Halifax County Landfill

February 2008 Semi - Annual Report

Prepared for:

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

RSG Project No. **Halifax - 8**

NORTH CAROLINA LICENSED SEAL 1369 GEOLOGIST JOAN A. SMYTH

Joan A. Smyth, P.G.
Senior Hydrogeologist

May 2008

RICHARDSON SMITH GARDNER & ASSOCIATES
Engineering and Geological Services
14 N. Boylan Avenue
Raleigh, North Carolina 27603

Halifax County Landfill

Semi-annual Ground Water Monitoring Report
February 2008 Monitoring Event

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1.0 Introduction

The Halifax County Landfill, operating under Solid Waste Permit #42-04, is required to submit semiannual ground water monitoring reports for assessment monitoring. This report presents the results of the first semi-annual monitoring event for 2008, conducted on February 18-19, 2008. 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 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. 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, Inc. 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.

3.0 Field & Laboratory Results

3.1 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, MW-18s, and MW-18d). 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 A**, and a copy of the recent most lab data for the site is included on CD as a text file (attached to the back cover).

3.2 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**.

Four inorganic constituents, shown in **Table 3** were detected in six (6) monitoring wells including one background well, MW-1. One constituent, beryllium, was found at concentrations above its respective 2L standard in MW-1. One inorganic constituent, zinc, was detected in three surface water samples, SW-1 SW-2, and SW-3. The locations of these samples are shown on **Figure 1**.

Two pesticides (Alpha-BHC and Delta-BHC) were detected in the monitoring well, MW-15r. Both were at levels above the 2L standard. The results are included as **Table 3**. Constituents detected below the SWSL are denoted as "J" values and are also included in **Table 3 & 4**.

Twelve organic constituents, shown in **Table 4**, were detected in eight of the monitoring wells (MW-2a, MW-2ad, MW-3a, MW-3d, MW-6d, MW-15r, MW-16a, and MW-17). Five constituents were found at concentrations above their respective 2L standards. These are highlighted on **Table 4**.

4.0 Statistical Analysis and Results

4.1 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 2008 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 B**) 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, and MW-16a as the down gradient or compliance wells. The statistical analysis reports are summarized in **Table 5**

4.2 Statistical Results

Statistically significant differences from background concentrations (**Table 5**) were found for, trichloroethene (MW-2a and MW-16a), tetrachloroethene (MW-16a), mercury (MW-15r), dichlorodifluoromethane (MW-16a), delta-BHC (MW-15r), cis-1,2-dichloromethane (MW-3a, MW-2ad, MW-2a, MW-16a, MW-6d), chlorobenzene (MW-3a), barium (MW-6d), alpha-BHC (MW-15r), 1,4-dichlorobenzene (MW-3a, MW15r), 1,1-dichloroethane (MW-3d, MW-3a, MW-2ad, MW-2a, MW-16a, MW-15r).

4.3 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 alpha-BHC and delta-BHC (MW-15r), barium (MW-6d), cis-1,2-dichloroethene (MW-3a, MW-15r), mercury (MW-15r), tetrachloroethene (MW-16a), and trichloroethene (MW-16a, MW-2a).

5.0 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 0.013 ft/day (MW-16a) to 0.321 ft/day (MW-2a). These calculated flow velocities are included in **Table 1**.

6.0 Conclusions

There has been an increase in statistically significant detections during this ground water monitoring event. In the cases of statistically significance for inorganic constituents, this is likely due to new SWSL requirements for laboratories issued by NCDENR. Due to the age of the wells at this site, RSG will evaluate the need for well redevelopment prior to the fall sampling event. The next monitoring event will be conducted in August 2008.

Figures

Tables

Table 1
Halifax County Closed Landfill
Ground Water Elevations & Velocities
02/19/08

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	--	33.53	--	--	--	--	--
MW-2a	246.43	5.25	241.18	1.835	0.2	0.035	0.321
MW-2ad	245.65	4.75	240.90	--	--	0.027	--
MW-3a	252.68	9.20	243.48	0.311	0.2	0.040	0.062
MW-3d	251.73	8.57	243.16	--	--	0.04	--
MW-6d	253.22	11.89	241.33	--	--	0.023	--
MW-7d	249.09	3.44	245.65	--	--	0.024	--
MW-15r	299.78	31.72	268.06	--	0.2	0.027	--
MW-16a	271.46	6.16	265.30	0.057	0.2	0.044	0.013
MW-17	247.75	5.32	242.43	--	--	0.027	--
MW-18s	244.04	4.57	239.47	--	--	0.021	--
MW-18d	244.04	4.02	240.02	--	--	0.003	--
BP-3	315.39	29.54	285.85	--	--	0.127	--
BP-9	303.48	30.91	272.57	--	--	0.017	--

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

Table 2
Halifax County Closed Landfill
Field Parameters
02/19/08

Monitoring Location	pH (std units)	Specific Conductivity (umhos/cm)	Temperature (degrees C)
MW-1	5.6	31	14
MW-2a	6.2	246	11
MW-2ad	6.6	549	13
MW-3a	6.3	716	13
MW-3d	6.0	166	14
MW-6d	6.1	522	14
MW-7d	6.2	44	12
MW-15r	5.0	94	15
MW-16a	6.0	133	12
MW-17	6.4	138	10
MW-18s	6.4	224	10
MW-18d	6.3	186	10
SW-1	6.8	108	13
SW-2	6.7	343	13
SW-3	6.5	625	14

Table 3
Halifax County Closed Landfill
Detected Inorganic Constituents
02/19/08

Monitoring Location	SWSL	2L Standard	MW-1	MW-2a	MW-2sd	MW-3a	MW-3d	MW-6d	MW-7d	MW-15r	MW-16a	MW-17	MW-18S	MW-18D	[illegible]	[illegible]	[illegible]
Antimony	6	---	0.1J	0.3J	0.1J	0.1J	0.1J	0.2J	0.1J	0.2J	ND	ND	0.1J	ND	ND	ND	0.2J
Arsenic	10	50	1.6J	1.9J	1.2J	1.7J	ND	0.2J	0.1J	0.3J	ND	ND	0.7J	ND	0.6J	1.4J	1.8J
Barium	100	2000	**105**	**110**	**125**	77.7J	56.8J	**531**	42.5J	**115**	85.5J	57.4	81.7J	70.7J	20.1J	41.8J	24.5J
Beryllium	1	---	**2**	0.3J	0.1J	0.1J	0.2J	0.4J	0.1J	0.5J	0.5J	0.6J	0.1J	ND	ND	0.1J	0.4J
Cadmium	1	1.75	0.5J	0.1J	0.2J	0.1J	1.3J	0.7J	0.2J	0.6J	0.2J	0.1J	0.1J	ND	0.1J	0.1J	0.5J
Chromium, total	10	50	2.3J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	10	---	5.6J	7.7J	5.1J	0.5J	0.1J	3.7J	0.2J	0.7J	0.5J	1.1J	5.0J	0.1J	0.2J	0.6J	0.9J
Copper	10	1000	4.7J	0.4J	0.8J	0.3J	0.2J	0.7J	0.6J	1.9J	0.5J	1.5J	0.8J	0.3J	1.5J	2.4J	0.8J
Lead	10	15	9.9J	0.3J	0.5J	0.2J	0.1J	0.3J	0.7J	2.0J	1.2J	2.6J	0.7J	0.1J	0.9J	0.6J	0.2J
Mercury	0.2	1.05	ND	0.07J	0.04J	ND	0.14J	ND	ND	**0.77**	0.05J	ND	ND	ND	ND	ND	ND
Nickel	50	100	2.7J	0.8J	2.1J	0.8J	0.6J	2.4J	0.4J	0.8J	0.6J	1.2J	1.3J	0.7J	0.8J	1.8J	2.3J
Selenium	10	50	1.3J	ND	ND	1.5J	ND	0.7J	ND	ND	ND	ND	ND	ND	ND	2.9J	6.5J
Silver	10	17.5	0.1J	0.1J	0.1J	0.1J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1J
Thallium	5	5	0.2J	0.1J	0.1J	ND	ND	ND	0.1J	0.2J	ND	0.1J	ND	ND	ND	ND	0.1J
Tin	100	---	ND	1.1J	1.0J	0.6J	0.7J	0.3J	0.5J	1.4J	0.6J	ND	ND	ND	ND	ND	ND
Vanadium	25	---	10.2J	2.2J	2.0J	1.9J	1.6J	1.4J	1.6J	ND	1.4J	4.5J	3.5J	1.9J	2.7J	2.2J	4.5J
Zinc	10	1050	**111**	3.5J	6.4J	2.7J	3.8J	**11**	6.0J	**13**	7.7J	**14**	4.7J	3.1J	**14**	**19**	**29**
Pesticides																	
Alpha-BHC	0.05	---	ND	ND	ND	ND	0.042J	0.038J	0.037J	**0.335**	0.039J	ND	ND	ND	ND	ND	ND
Beta-BHC	0.05	---	ND	ND	ND	0.032J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	0.05	---	ND	ND	0.043J	ND	ND	0.042J	0.043J	**0.067**	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	0.05	0.2	ND	ND	ND	ND	0.033J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - Not detected at or above SWSL
Shading - Levels above 2L standard or no 2L standard
Bold Letters - Levels below 2L standard
SWSL - Solid Waste Section Quantitation Limits
All results in ug/L

Table 4
Halifax County Closed Landfill
Detected Organic Constituents
02/19/08

Monitoring Location	SWSL	2L Standard	MW-1	MW-2s	MW-2sd	MW-3s	MW-3d	MW-6d	MW-7d	MW-15s	MW-16s	MW-17	MW-18s	MW-18d	SW-1	SW-2	SW-3
Acetone	100	700	2.2J	3.2J	5.3J	2.7J	2.2J	3.2J	3.0J	2.7J	3.0J	4.10J	3.20J	2.80J	4.80J	2.80J	2.50J
Benzene	1	1	ND	0.5J	**1.3**	**2.6**	0.2J	**1.7**	ND	ND	**2**	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	70	ND	**16.8**	**29.0**	**7.1**	0.4J	0.4J	ND	**6.5**	**10.3**	2.00J	0.50J	1.10J	ND	ND	ND
1,1- Dichloroethene	5	---	ND	0.7J	0.2J	0.2J	**5.0**	ND	ND	ND	0.3J	ND	ND	ND	ND	ND	ND
1,2- Dichlorobenzene	5	---	ND	ND	ND	ND	ND	0.2J	ND	ND	0.7J	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	1	0.38	ND	0.3J	0.2J	0.2J	0.2J	ND	ND	0.4J	0.2J	ND	ND	ND	ND	ND	ND
1,2- Dichloropropane	1	0.51	ND	0.2J	0.2J	**1.1**	**2.1**	ND	ND	ND	0.4J	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	1	75	ND	0.6J	0.7J	**7.3**	ND	**1.8**	ND	**10.7**	**1.1**	ND	ND	ND	ND	ND	ND
1,1,1- Trichloroethane	1	200	ND	ND	ND	ND	ND	ND	ND	ND	0.2J	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	5	1400	ND	1.0J	1.0J	ND	2.2J	ND	ND	0.30J	**9.3**	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichlorethene	5	70	ND	**15.8**	**11.0**	**10.8**	1.3J	1.1J	ND	4.4J	**26.3**	0.90J	0.30J	0.60J	ND	ND	ND
Chlorobenzene	3	50	ND	1.1J	0.9J	**3.7**	ND	**9.5**	ND	ND	0.9J	ND	ND	ND	ND	ND	ND
Chloroethane	10	2800	ND	1.1J	2.5J	1.5J	ND	ND	ND	ND	1.0J	ND	ND	ND	ND	ND	ND
Chloromethane	1	2.6	ND	ND	0.3J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	1	5	ND	ND	ND	ND	ND	ND	ND	**2.3**	**1.2**	0.20J	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	100	ND	0.2J	0.2J	0.4J	ND	ND	ND	ND	0.20J	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1	70	ND	0.5J	0.3J	ND	**2.3**	ND	ND	**2.5**	**31.9**	**1.4**	ND	0.20J	ND	ND	ND
Trichlorofluoromethane	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	0.9J	0.20J	ND	ND	ND	ND	ND
Trichloroethene	1	2.8	ND	**5.6**	**3.2**	**1.9**	ND	ND	ND	**2.9**	**17.4**	**1.3**	ND	0.20J	ND	ND	ND
Toluene	1	1000	0.3J	0.3J	0.3J	0.3J	0.3J	0.2J	0.2J	0.2J	0.3J	0.30J	0.30J	0.30J	0.4J	0.50J	0.30J
Vinyl Chloride	1	0.015	ND	**3.3**	**4.1**	**3.3**	ND	0.9J	ND	ND	0.5J	ND	0.50J	ND	ND	ND	ND
Xylenes	5	530	ND	ND	ND	ND	ND	ND	ND	0.6J	ND	ND	ND	ND	ND	ND	ND

ND	-	Not detected at or above SWSL
Shading	-	Levels above 2L standard or no 2L standard
Bold Letters	-	Levels below 2L standard
SWSL	-	Solid Waste Section Quantitation Limits
	*	All results in ug/L

Table 5
Halifax County Landfill
Statistical Analysis Summary
2/19/2008

Monitoring Well	Parameters	Detected level	Detection Limit	Test Units	%ND	CL	Test	Statistically Significant?	2L/MCL statistical analysis	Method for MCL analysis
MW-1d	1,1-Dichloroethane	8.5	<5	ug/l	50.68	—	Wilcoxon	Y	N	MCL-PTI
MW-15r	1,1-Dichloroethane	10.3	<5	ug/l	50.68	—	Wilcoxon	Y	N	MCL-PTI
MW-2	1,1-Dichloroethane	10.9	<5	ug/l	50.68	—	Wilcoxon	Y	N	MCL-PTI
MW-2d	1,1-Dichloroethane	9.8	<5	ug/l	50.68	—	Wilcoxon	Y	N	MCL-PTI
MW-3d	1,1-Dichloroethane	10.1	<5	ug/l	50.68	—	Wilcoxon	Y	N	MCL-PTI
MW-3d	1,1-Dichloroethane	8	<5	ug/l	50.68	—	Wilcoxon	Y	N	MCL-PTI
MW-3d	1,1-Dichloroethane	6	<5	ug/l	50.68	—	Wilcoxon	Y	N	MCL-PTI
MW-3ad	1,2-Dichloropropane	1.1	<1	ug/l	97	—	PPL with 1/2 DL	N	—	—
MW-3d	1,2-Dichloropropane	2.1	<1	ug/l	97	—	PPL with 1/2 DL	N	—	—
MW-15r	1,4-Dichlorobenzene	10.7	<1	ug/l	88.7	89	NPTL	Y	N	MCL-PTI
MW-16a	1,4-Dichlorobenzene	1.1	<1	ug/l	88.7	89	NPTL	N	—	—
MW-3ad	1,4-Dichlorobenzene	7.3	<1	ug/l	88.7	89	NPTL	Y	N	MCL-PTI
MW-6d	1,4-Dichlorobenzene	1.8	<1	ug/l	88.7	89	NPTL	N	—	—
MW-15r	Alpha-BHC	0.535	<0.05	ug/l	83.33	85.7	NPTL	Y	Y	MCL-PTI
MW-15r	Barium	0.115	<0.1	mg/l	78.94	89	NPTL	N	—	—
MW-2a	Barium	0.11	<0.1	mg/l	78.94	89	NPTL	N	—	—
MW-2ad	Barium	0.125	<0.1	mg/l	78.94	89	NPTL	N	—	—
MW-6d	Barium	0.531	<0.1	mg/l	78.94	89	NPTL	Y	Y	MCL-PTI
MW-16a	Benzene	2	<1	ug/l	90.32	—	PPL with 1/2 DL	N	—	—
MW-2ad	Benzene	1.3	<1	ug/l	90.32	—	PPL with 1/2 DL	N	—	—
MW-3ad	Benzene	2.6	<1	ug/l	90.32	—	PPL with 1/2 DL	N	—	—
MW-6d	Benzene	1.7	<1	ug/l	90.32	—	PPL with 1/2 DL	N	—	—
MW-3ad	Chlorobenzene	3.7	<3	ug/l	69.23	94.3	NPPL	N	—	—
MW-8d	Chlorobenzene	9.5	<3	ug/l	69.23	94.3	NPPL	Y	N	MCL-PTI
MW-16a	Cis-1,2-Dichloroethene	26.3	<5	ug/l	56.64	89.2	NPTL	Y	N	MCL-PTI
MW-2a	Cis-1,2-Dichloroethene	18.8	<5	ug/l	56.64	89.2	NPTL	Y	N	MCL-PTI
MW-2ad	Cis-1,2-Dichloroethene	11	<5	ug/l	56.64	89.2	NPTL	Y	N	MCL-PTI
MW-3ad	Cis-1,2-Dichloroethene	16.6	<5	ug/l	56.64	89.2	NPTL	Y	Y	MCL-PTI
MW-15r	Delta-BHC	0.067	<0.05	ug/l	83.3	85.7	NPTL	Y	Y	MCL-PTI
MW-15a	Dichlorodifluoromethane	9.3	<5	ug/l	75	85.7	NPTL	Y	N	MCL-PTI
MW-15r	Mercury	0.00077	<0.002	mg/l	88.71	91	NPTL	Y	Y	MCL-PTI
MW-15r	Methylene Chloride	2.3	<1	ug/l	76.71	93.9	NPPL	N	—	—
MW-16a	Methylene Chloride	1.2	<1	ug/l	76.71	93.9	NPPL	N	—	—
MW-15r	Tetrachloroethene	2.5	<1	ug/l	77	91.7	NPPL	N	—	—
MW-16a	Tetrachloroethene	31.8	<1	ug/l	77	91.7	NPPL	Y	Y	MCL-PTI
MW-3d	Tetrachloroethene	2.3	<1	ug/l	77	91.7	NPPL	N	—	—
MW-15r	Trichloroethene	2.9	<1	ug/l	68.12	86.8	NPTL	N	—	—
MW-16a	Trichloroethene	17.4	<1	ug/l	68.12	86.8	NPTL	Y	Y	MCL-PTI
MW-2a	Trichloroethene	5.9	<1	ug/l	68.12	86.8	NPTL	Y	Y	MCL-PTI
MW-2ad	Trichloroethene	3.2	<1	ug/l	68.12	86.8	NPTL	N	—	—
MW-3ad	Trichloroethene	1.9	<1	ug/l	68.12	86.8	NPTL	N	—	—
MW-2a	Vinyl Chloride	3.3	<1	ug/l	87.7	91.7	NPPL	N	—	—
MW-2ad	Vinyl Chloride	4.1	<1	ug/l	87.7	91.7	NPPL	N	—	—
MW-3ad	Vinyl Chloride	3.3	<1	ug/l	87.7	91.7	NPPL	N	—	—
MW-15r	Zinc	0.013	<0.010	mg/l	82.6	94	NPPL	N	—	—
MW-6d	Zinc	0.011	<0.010	mg/l	82.6	94	NPPL	N	—	—

Legend:

%ND	Method chosen due to percent non-detects
NPPL	Non-parametric Tolerance Limit (Inter-well comparision)
NPTL	Non-parametric Tolerance Limit (Inter-well comparision)
PPL	Poisson Prediction Limit with 1/2 Detection Limit
CL	Confidence Level

Highlighting indicates statistical significance

Notes:
MW-1 used as background well

Appendix A

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 MAY 13 2008

ID#: 6015

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/19/08
DATE REPORTED : 03/20/08

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #1	Well #2A	Well #3D	Well #7D	Well #2AD	Analysis Date	Analyst	Method Code
PH (field measurement), Units			5.6	6.2	6.0	6.2	6.6	02/19/08	RJH	SM4500HB
Cyanide, ug/l	5.0	10.0		--- U	--- U	--- U	--- U	02/22/08	SEJ	SM4500 CN-
Antimony, ug/l	0.08	6.0	0.1 J	0.3 J	0.1 J	0.1 J	0.1 J	02/28/08	LFJ	EPA200.8
Arsenic, ug/l	0.07	10.0	1.6 J	1.9 J	--- U	0.1 J	1.2 J	02/28/08	LFJ	EPA200.8
Barium, ug/l	0.11	100.0	105	110	56.8 J	42.5 J	125	02/22/88	LFJ	EPA200.8
Beryllium, ug/l	0.06	1.0	2.0	0.3 J	0.2 J	0.1 J	0.1 J	02/28/08	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.5 J	0.1 J	--- U	0.2 J	0.2 J	02/28/08	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	5.6 J	7.7 J	0.1 J	0.2 J	5.1 J	02/28/08	LFJ	EPA200.8
Copper, ug/l	0.05	10.0	4.7 J	0.4 J	0.2 J	0.6 J	0.8 J	02/28/08	LFJ	EPA200.8
Total Chromium, ug/l	0.11	10.0	2.3 J	--- U	--- U	--- U	--- U	02/28/08	LFJ	EPA200.8
Lead, ug/l	0.04	10.0	9.9 J	0.3 J	0.1 J	0.7 J	0.5 J	02/28/08	LFJ	EPA200.8
Mercury, ug/l	0.13	0.20		0.07 J	0.14 J	--- U	0.04 J	02/28/08	LFJ	EPA200.8
Nickel, ug/l	0.06	50.0	2.7 J	0.8 J	0.6 J	0.4 J	2.1 J	02/28/08	LFJ	EPA200.8
Selenium, ug/l	0.14	10.0	1.3 J	--- U	--- U	--- U	--- U	02/28/08	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	0.1 J	0.1 J	--- U	--- U	0.1 J	02/28/08	LFJ	EPA200.8
Thallium, ug/l	0.04	5.0	0.2 J	0.1 J	--- U	0.1 J	0.1 J	02/28/08	LFJ	EPA200.8
Tin, ug/l	0.13	100.0		1.1 J	0.7 J	0.5 J	1.0 J	02/28/08	LFJ	EPA200.8
Vanadium, ug/l	0.07	25.0	10.2 J	2.2 J	1.6 J	1.6 J	2.0 J	02/28/08	LFJ	EPA200.8
Zinc, ug/l	0.04	10.0	111	3.5 J	3.8 J	6.0 J	6.4 J	02/28/08	LFJ	EPA200.8
Sulfide, ug/l	100	1000		--- U	--- U	--- U	--- U	02/22/08	LFJ	SM4500-S2D
Conductivity (at 25c), uMhos	1.0	1.0	31	246	166	44	549	02/19/08	RJH	SM2510B
Temperature, °C			14	11	14	12	13	02/19/08	RJH	SM2550B
Static Water Level, feet			33.53	5.25	8.57	3.44	4.75	02/19/08	RJH	
Well Depth, feet			42.36	17.21	52.07	39.57	41.75	02/19/08	RJH	

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

Environment 1, Incorporated

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

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FAX (252) 756-0633

ID#: 6015

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/19/08
DATE REPORTED : 03/20/08

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #6D	Well #15R	Well #3AD	Well #16A	BP-3	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.1	5.0	6.3	6.0		02/19/08	RJH	SM4500HB
Cyanide, ug/l	5.0	10.0	--- U	--- U	--- U	--- U		02/22/08	SEJ	SM4500 CN-
Antimony, ug/l	0.08	6.0	0.2 J	0.2 J	0.1 J	--- U		02/28/08	LFJ	EPA200.8
Arsenic, ug/l	0.07	10.0	0.2 J	0.3 J	1.7 J	--- U		02/28/08	LFJ	EPA200.8
Barium, ug/l	0.11	100.0	531	115	77.7 J	85.5 J		02/22/08	LFJ	EPA200.8
Beryllium, ug/l	0.06	1.0	0.4 J	0.5 J	0.1 J	0.5 J		02/28/08	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.7 J	0.6 J	0.1 J	0.2 J		02/28/08	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	3.7 J	0.7 J	0.5 J	0.5 J		02/28/08	LFJ	EPA200.8
Copper, ug/l	0.05	10.0	0.7 J	1.9 J	0.3 J	0.5 J		02/28/08	LFJ	EPA200.8
Total Chromium, ug/l	0.11	10.0	--- U	--- U	--- U	--- U		02/28/08	LFJ	EPA200.8
Lead, ug/l	0.04	10.0	0.3 J	2.0 J	0.2 J	1.2 J		02/28/08	LFJ	EPA200.8
Mercury, ug/l	0.13	0.20	--- U		--- U			02/28/08	LFJ	EPA200.8
Mercury, ug/l	0.13	0.20		0.77		0.05 J		03/05/08	ADD	EPA245.1
Nickel, ug/l	0.06	50.0	2.4 J	0.8 J	0.8 J	0.6 J		02/28/08	LFJ	EPA200.8
Selenium, ug/l	0.14	10.0	0.7 J	--- U	1.5 J	--- U		02/28/08	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	--- U	--- U	0.1 J	--- U		02/28/08	LFJ	EPA200.8
Thallium, ug/l	0.04	5.0	--- U	0.2 J	--- U	--- U		02/28/08	LFJ	EPA200.8
Tin, ug/l	0.13	100.0	0.3 J	1.4 J	0.6 J	0.6 J		02/28/08	LFJ	EPA200.8
Vanadium, ug/l	0.07	25.0	1.4 J	2.7 J	1.9 J	1.4 J		02/28/08	LFJ	EPA200.8
Zinc, ug/l	0.04	10.0	11	13	2.7 J	7.7 J		02/28/08	LFJ	EPA200.8
Sulfide, ug/l	100	1000	--- U	--- U	--- U	--- U		02/22/08	LFJ	SM4500-S2D
Conductivity (at 25c), uMhos	1.0	1.0	522	94	716	133		02/19/08	RJH	SM2510B
Temperature, °C			14	15	13	12		02/19/08	RJH	SM2550B
Static Water Level, feet			11.89	31.72	9.20	6.16	29.54	02/19/08	RJH	
Well Depth, feet			43.55	46.41	22.89	22.73		02/19/08	RJH	

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

Environment 1, Incorporated

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

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ID#: 6015

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/19/08
DATE REPORTED : 03/20/08

REVIEWED BY:

PARAMETERS	MDL	SWSL	BP-9	Trip Blank	Equipment Blank	Analysis Date	Analyst	Method Code
Static Water Level, feet			30.91			02/19/08	RJH	

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

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

REVIEWED BY:

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/19/08
DATE EXTRACTED: 02/22/08
DATE ANALYZED: 02/25/08
DATE REPORTED: 03/20/08

PESTICIDES AND PCB'S
EPA METHOD 8081A

PARAMETERS, ug/l	MDL	SWSL	Well #2A	Well #3D	Well #7D	Well #2AD	Well #6D
1. Aldrin	0.029	0.05	--- U	--- U	--- U	--- U	--- U
2. Alpha-BHC	0.032	0.05	--- U	0.042 J	0.037 J	--- U	0.038 J
3. Beta-BHC	0.031	0.05	--- U	--- U	--- U	--- U	--- U
4. Delta-BHC	0.030	0.05	--- U	--- U	0.043 J	0.043 J	0.042 J
5. Gamma-BHC (Lindane)	0.032	0.05	--- U	0.033 J	--- 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. Hepthchlor 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

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

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MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/19/08
DATE EXTRACTED: 02/22/08
DATE ANALYZED: 02/25/08
DATE REPORTED: 03/20/08

REVIEWED BY:

PESTICIDES AND PCB'S
EPA METHOD 8081A

PARAMETERS, ug/l	MDL	SWSL	Well #15R	Well #3AD	Well #16A
1. Aldrin	0.029	0.05	--- U	--- U	--- U
2. Alpha-BHC	0.032	0.05	0.335	--- U	0.039 J
3. Beta-BHC	0.031	0.05	--- U	0.032 J	--- U
4. Delta-BHC	0.030	0.05	0.067	--- 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. Hepthchlor Epoxide	0.042	0.07	--- U	--- U	--- U
18. Methoxychlor	0.580	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

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

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GREENVILLE, N.C. 27835-7085

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/19/08
DATE EXTRACTED: 02/25/08
DATE ANALYZED: 03/04/08
DATE REPORTED: 03/20/08

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8151A

PARAMETERS, ug/l	MDL	SWSL	Well #2A	Well #3D	Well #7D	Well #2AD	Well #6D
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

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

Environment 1, Incorporated

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

REVIEWED BY:

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/19/08
DATE EXTRACTED: 02/25/08
DATE ANALYZED: 03/04/08
DATE REPORTED: 03/20/08

LANDFILL APPENDIX II
EPA METHOD 8151A

PARAMETERS, ug/l	MDL	SWSL	Well #15R	Well #3AD	Well #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

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 02/19/08
DATE ANALYZED: 02/28/08
DATE REPORTED: 03/20/08

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Well #1
1. Chloromethane	0.18	1.0	--- U
2. Vinyl Chloride	0.34	1.0	--- U
3. Bromomethane	0.26	10.0	--- U
4. Chloroethane	0.29	10.0	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U
7. Acetone	1.21	100.0	2.20 J
8. Iodomethane	0.12	10.0	--- U
9. Carbon Disulfide	0.14	100.0	--- U
10. Methylene Chloride	0.14	1.0	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U
13. Vinyl Acetate	0.20	5.0	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U
15. 2-Butanone	0.85	100.0	--- U
16. Bromochloromethane	0.11	3.0	--- U
17. Chloroform	0.13	5.0	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U
20. Benzene	0.16	1.0	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U
22. Trichloroethene	0.13	1.0	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U
24. Bromodichloromethane	0.13	1.0	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U
27. Toluene	0.13	1.0	0.30 J
28. trans-1,3-Dichloropropene	0.14	1.0	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U
30. Tetrachloroethene	0.16	1.0	--- U
31. 2-Hexanone	1.00	50.0	--- U
32. Dibromochloromethane	0.14	3.0	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U
34. Chlorobenzene	0.13	3.0	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U
36. Ethylbenzene	0.16	1.0	--- U
37. Xylenes	0.48	5.0	--- U
38. Dibromomethane	0.17	10.0	--- U
39. Styrene	0.16	1.0	--- U
40. Bromoform	0.11	3.0	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U
46. Acrylonitrile	1.49	200.0	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U

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

Environment 1, Incorporated

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)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/19/08
DATE EXTRACTED: 02/23/08
DATE ANALYZED: 03/13/08
DATE REPORTED: 03/20/08

REVIEWED BY:

SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	Well #2A	Well #3D	Well #7D	Well #2AD	Well #6D
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	--- U	--- U	--- U	--- 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

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

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 02/19/08
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SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	Well #2A	Well #3D	Well #7D	Well #2AD	Well #6D
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

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Environment 1, Incorporated

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
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SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	Well #2A	Well #3D	Well #7D	Well #2AD	Well #6D
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

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Environment 1, Incorporated

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GREENVILLE, N.C. 27835-7085

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

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EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	Well #15R	Well #3AD	Well #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	--- U	--- U	--- 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

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

Environment 1, Incorporated

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

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P.O. BOX 70
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CLIENT ID: 6015

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SEMI-VOLATILE ORGANICS
EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	Well #15R	Well #3AD	Well #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

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

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EPA METHOD 8270C

PARAMETERS, ug/l	MDL	SWSL	Well #15R	Well #3AD	Well #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

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

Environment 1, Incorporated

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

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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 02/19/08
DATE REPORTED: 03/20/08

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Date Analyzed: 02/28/08 Well #2A	02/28/08 Well #3D	02/28/08 Well #7D	02/28/08 Well #2AD	02/28/08 Well #6D
1. Chloromethane	0.18	1.0	--- U	--- U	--- U	0.30 J	--- U
2. Vinyl Chloride	0.34	1.0	3.30	--- U	--- U	4.10	0.90 J
3. Bromomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.29	10.0	1.10 J	--- U	--- U	2.50 J	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	0.70 J	0.40 J	--- U	0.20 J	--- U
7. Acetone	1.21	100.0	3.20 J	2.20 J	3.00 J	5.30 J	3.20 J
8. Iodomethane	0.12	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.14	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	0.20 J	--- U	--- U	0.20 J	--- U
12. 1,1-Dichloroethane	0.16	5.0	16.80	5.00	--- U	29.00	0.40 J
13. Vinyl Acetate	0.20	5.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	15.80	1.30 J	--- U	11.00	1.10 J
15. 2-Butanone	0.85	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.16	1.0	0.50 J	0.20 J	--- U	1.30	1.70
21. 1,2-Dichloroethane	0.12	1.0	0.30 J	--- U	--- U	0.20 J	--- U
22. Trichloroethene	0.13	1.0	5.60	--- U	--- U	3.20	--- U
23. 1,2-Dichloropropane	0.17	1.0	0.20 J	2.10	--- U	0.20 J	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.13	1.0	0.30 J	0.30 J	0.20 J	0.30 J	0.20 J
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.16	1.0	0.50 J	2.30	--- U	0.30 J	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.13	3.0	1.10 J	--- U	--- U	0.90 J	9.50
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.48	5.0	--- U	--- U	--- U	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	0.60 J	--- U	--- U	0.70 J	1.80
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U	--- U	--- U	0.20 J
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U	--- U	--- U	--- U

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

Environment 1, Incorporated

P.O. BOX 7085, 114 OAKMONT DRIVE
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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 02/19/08
DATE REPORTED: 03/20/08

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	02/28/08 Well #2A	02/28/08 Well #3D	02/28/08 Well #7D	02/28/08 Well #2AD	02/28/08 Well #6D
48. Acrolein	5.46	50.0	--- U	--- U	--- U	--- U	--- U
49. Allyl Chloride	0.17	10.0	--- U	--- U	--- U	--- U	--- U
50. Chloroprene	0.16	20.0	--- U	--- U	--- U	--- U	--- U
51. 1,3-Dichlorobenzene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
52. Dichlorodifluoromethane	0.16	5.0	1.00 J	2.20 J	--- U	1.00 J	--- U
53. 1,3-Dichloropropane	0.12	1.0	--- U	--- U	--- U	--- U	--- U
54. 2,2-Dichloropropane	0.18	15.0	--- U	--- U	--- U	--- U	--- U
55. 1,1-Dichloropropene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
56. Ethyl Methacrylate	0.14	10.0	--- U	--- U	--- U	--- U	--- U
57. Hexachlorobutadiene	0.22	10.0	--- U	--- U	--- U	--- U	--- U
58. Isobutyl Alcohol	5.23	100.0	--- U	--- U	--- U	--- U	--- U
59. Methacrylonitrile	1.64	100.0	--- U	--- U	--- U	--- U	--- U
60. Methyl Methacrylate	0.10	30.0	--- U	--- U	--- U	--- U	--- U
61. Naphthalene	0.13	10.0	--- U	--- U	--- U	--- U	--- U
62. Propionitrile	1.60	150.0	--- U	--- U	--- U	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.11	10.0	--- U	--- U	--- U	--- U	--- U
64. Acetonitrile	5.96	50.0	--- U	--- U	--- U	--- U	--- U

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Environment 1, Incorporated

P.O. BOX 7085, 114 OAKMONT DRIVE
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CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
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HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 02/19/08
DATE REPORTED: 03/20/08

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	02/28/08 Well #15R	02/29/08 Well #3AD	02/28/08 Well #16A	02/29/08 Trip Blank	02/29/08 Equipment Blank
1. Chloromethane	0.18	1.0	--- U	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	3.30	0.50 J	--- U	--- U
3. Bromomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	1.50 J	1.00 J	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U	0.90 J	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	0.20 J	0.30 J	--- U	--- U
7. Acetone	1.21	100.0	2.70 J	2.70 J	3.00 J	--- U	--- U
8. Iodomethane	0.12	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.14	1.0	2.30	--- U	1.20	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	0.40 J	0.20 J	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	6.50	7.10	10.30	--- U	--- U
13. Vinyl Acetate	0.20	5.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	4.40 J	10.80	26.30	--- U	--- U
15. 2-Butanone	0.85	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U	0.20 J	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.16	1.0	--- U	2.60	2.00	--- U	--- U
21. 1,2-Dichloroethane	0.12	1.0	0.40 J	0.20 J	0.20 J	--- U	--- U
22. Trichloroethene	0.13	1.0	2.90	1.90	17.40	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U	1.10	0.40 J	--- U	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.13	1.0	0.20 J	0.30 J	0.30 J	1.60	0.80 J
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.16	1.0	2.50	--- U	31.90	--- U	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.13	3.0	--- U	3.70	0.90 J	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.48	5.0	0.60 J	--- U	--- U	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	10.70	7.30	1.10	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U	0.70 J	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U	--- U	--- U	--- U

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

Environment 1, Incorporated

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MR. FRANK RALPH
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HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 02/19/08
DATE REPORTED: 03/20/08

REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	02/28/08 Well #15R	02/29/08 Well #3AD	02/28/08 Well #16A	02/29/08 Trip Blank	02/29/08 Equipment Blank
48. Acrolein	5.46	50.0	--- U	--- U	--- U	--- U	--- U
49. Allyl Chloride	0.17	10.0	--- U	--- U	--- U	--- U	--- U
50. Chloroprene	0.16	20.0	--- U	--- U	--- U	--- U	--- U
51. 1,3-Dichlorobenzene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
52. Dichlorodifluoromethane	0.16	5.0	0.30 J	--- U	9.30	--- U	--- U
53. 1,3-Dichloropropane	0.12	1.0	--- U	--- U	--- U	--- U	--- U
54. 2,2-Dichloropropane	0.18	15.0	--- U	--- U	--- U	--- U	--- U
55. 1,1-Dichloropropene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
56. Ethyl Methacrylate	0.14	10.0	--- U	--- U	--- U	--- U	--- U
57. Hexachlorobutadiene	0.22	10.0	--- U	--- U	--- U	--- U	--- U
58. Isobutyl Alcohol	5.23	100.0	--- U	--- U	--- U	--- U	--- U
59. Methacrylonitrile	1.64	100.0	--- U	--- U	--- U	--- U	--- U
60. Methyl Methacrylate	0.10	30.0	--- U	--- U	--- U	--- U	--- U
61. Naphthalene	0.13	10.0	--- U	--- U	--- U	--- U	--- U
62. Propionitrile	1.60	150.0	--- U	--- U	--- U	--- U	--- U
63. 1,2,4-Trichlorobenzene	0.11	10.0	--- U	--- U	--- U	--- U	--- U
64. Acetonitrile	5.96	50.0	--- U	--- U	--- U	33.50 J	7.80 J

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

Environment 1, Incorporated

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GREENVILLE, N.C. 27835-7085

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ID#: 6015 A

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/18/08
DATE REPORTED : 03/14/08

REVIEWED BY:

PARAMETERS	MDL	SWSL	SW-1	SW-2	SW-3	Analysis Date	Analyst	Method Code
PH (field measurement), Units			6.8	6.7	6.5	02/18/08	RJH	SM4500HB
Antimony, ug/l	0.08	6.0	--- U	--- U	0.2 J	02/22/08	LFJ	EPA200.8
Arsenic, ug/l	0.07	10.0	0.6 J	1.4 J	1.8 J	02/22/08	LFJ	EPA200.8
Barium, ug/l	0.34	100.0	20.1 J	41.8 J	24.5 J	02/22/08	LFJ	EPA200.8
Beryllium, ug/l	0.17	1.0	--- U	0.1 J	0.4 J	02/22/08	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.1 J	0.1 J	0.5 J	02/22/08	LFJ	EPA200.8
Cobalt, ug/l	2.53	10.0	0.2 J	0.6 J	0.9 J	02/22/08	LFJ	EPA200.8
Copper, ug/l	2.24	10.0	1.5 J	2.4 J	0.8 J	02/22/08	LFJ	EPA200.8
Total Chromium, ug/l	1.38	10.0	--- U	--- U	--- U	02/22/08	LFJ	EPA200.8
Lead, ug/l	0.04	10.0	0.9 J	0.6 J	0.2 J	02/22/08	LFJ	EPA200.7
Nickel, ug/l	1.35	50.0	0.8 J	1.8 J	2.3 J	02/22/08	LFJ	EPA200.8
Selenium, ug/l	0.14	10.0	--- U	2.9 J	6.5 J	02/22/08	LFJ	EPA200.8
Silver, ug/l	2.32	10.0	--- U	--- U	0.1 J	02/22/08	LFJ	EPA200.8
Thallium, ug/l	0.04	5.0	--- U	--- U	0.1 J	02/22/08	LFJ	EPA200.8
Vanadium, ug/l	1.21	25.0	2.7 J	2.2 J	4.5 J	02/22/08	LFJ	EPA200.8
Zinc, ug/l	1.86	10.0	14	19	29	02/22/08	LFJ	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	108	343	625	02/18/08	RJH	SM2510B
Temperature, °C			13	13	14	02/18/08	RJH	SM2550B

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

Environment 1, Incorporated

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GREENVILLE, N.C. 27835-7085

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CLIENT ID: 6015 A

ANALYST: MAO
DATE COLLECTED: 02/18/08
DATE ANALYZED: 02/28/08
DATE REPORTED: 03/14/08

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	SW-1	SW-2	SW-3
1. Chloromethane	0.18	1.0	--- U	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	--- U	--- U
3. Bromomethane	0.26	10.0	--- U	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U	--- U
7. Acetone	1.21	100.0	4.80 J	2.80 J	2.50 J
8. Iodomethane	0.12	10.0	--- U	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U	--- U
10. Methylene Chloride	0.14	1.0	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U	--- U	--- U
13. Vinyl Acetate	0.20	5.0	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U	--- U	--- U
15. 2-Butanone	0.85	100.0	--- U	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U	--- U
20. Benzene	0.16	1.0	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U	--- U	--- U
22. Trichloroethene	0.13	1.0	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U	--- U	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U	--- U
27. Toluene	0.13	1.0	0.40 J	0.50 J	0.30 J
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U	--- U
30. Tetrachloroethene	0.16	1.0	--- U	--- U	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U	--- U
34. Chlorobenzene	0.13	3.0	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U	--- U
37. Xylenes	0.48	5.0	--- U	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U	--- U

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

Environment 1, Incorporated

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

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

ID#: 6015 B

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX ,NC 27839

DATE COLLECTED: 02/19/08
DATE REPORTED : 03/14/08

REVIEWED BY:

PARAMETERS	MDL	SWSL	Well #17	Trip Blank	Well #18 Shallow	Well #18 Deep	Analysis Date	Analyst	Method Code
Antimony, ug/l	0.08	6.0	--- U		0.1 J	--- U	02/28/08	LFJ	EPA200.8
Arsenic, ug/l	0.07	10.0	--- U		0.7 J	--- U	02/28/08	LFJ	EPA200.8
Barium, ug/l	0.11	100.0	57.4 J		81.7 J	70.7 J	02/22/88	LFJ	EPA200.8
Beryllium, ug/l	0.06	1.0	0.6 J		0.1 J	--- U	02/28/08	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.1 J		0.1 J	--- U	02/28/08	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	1.1 J		5.0 J	0.1 J	02/28/08	LFJ	EPA200.8
Copper, ug/l	0.05	10.0	1.5 J		0.8 J	0.3 J	02/28/08	LFJ	EPA200.8
Total Chromium, ug/l	0.11	10.0	--- U		--- U	--- U	02/28/08	LFJ	EPA200.8
Lead, ug/l	0.04	10.0	2.6 J		0.7 J	0.1 J	02/28/08	LFJ	EPA200.8
Nickel, ug/l	0.06	50.0	1.2 J		1.3 J	0.7 J	02/28/08	LFJ	EPA200.8
Selenium, ug/l	0.14	10.0	--- U		--- U	--- U	02/28/08	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	--- U		--- U	--- U	02/28/08	LFJ	EPA200.8
Thallium, ug/l	0.04	5.0	0.1 J		--- U	--- U	02/28/08	LFJ	EPA200.8
Vanadium, ug/l	0.07	25.0	4.5 J		3.5 J	1.9 J	02/28/08	LFJ	EPA200.8
Zinc, ug/l	0.04	10.0	14		4.7 J	3.1 J	02/28/08	LFJ	EPA200.8

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

Environment 1, Incorporated

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

PHONE (252) 756-8208
FAX (252) 756-0633

CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 B

ANALYST: MAO
DATE COLLECTED: 02/19/08
DATE ANALYZED: 02/28/08
DATE REPORTED: 03/14/08

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Well #17	Trip Blank	Well #18 Shallow	Well #18 Deep
1. Chloromethane	0.18	1.0	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	--- U	0.50 J	--- U
3. Bromomethane	0.26	10.0	--- U	--- U	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	0.20 J	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U	--- U	--- U
7. Acetone	1.21	100.0	4.10 J	--- U	3.20 J	2.80 J
8. Iodomethane	0.12	10.0	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.14	1.0	0.20 J	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	2.00 J	--- U	0.50 J	1.10 J
13. Vinyl Acetate	0.20	5.0	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	0.90 J	--- U	0.30 J	0.60 J
15. 2-Butanone	0.85	100.0	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U	--- U	--- U
20. Benzene	0.16	1.0	--- U	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U	--- U	--- U	--- U
22. Trichloroethene	0.13	1.0	1.30	--- U	--- U	0.20 J
23. 1,2-Dichloropropane	0.17	1.0	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U	--- U	--- U
27. Toluene	0.13	1.0	0.30 J	1.70	0.30 J	0.30 J
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.16	1.0	1.40	--- U	--- U	0.20 J
31. 2-Hexanone	1.00	50.0	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.13	3.0	--- U	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U	--- U	--- U
37. Xylenes	0.48	5.0	--- U	--- U	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- 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 **Week: 6**

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
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 8081A	8260B App. II	8260 App. II 1	8260 App. II 2	8260 App. II 3
CHLORINE NEUTRALIZED AT COLLECTION																					
pH CHECK (LAB)							12	12	12				<2	<2				<2	<2	<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	E
Well #1	02	19 08	1030	14	4	G		G		G	G	G	G	G							
Well #2A	02	19 08	0920	11	10	G	G	G	G	G	G	G			G	G	G	G	G		
Well #3D	02	19 08	0950	14	9	G	G	G	G	G	G	G			G	G	G	G	G	G	
Well #7D	02	19 08	1040	12	9	G	G	G	G	G	G	G			G	G	G	G	G		
Well #2AD	02	19 08	0930	13	10	G	G	G	G	G	G	G			G	G	G	G	G		G
Well #6D	02	19 08	1055	14	9	G	G	G	G	G	G	G			G	G	G	G	G		
Well #15R	02	19 08	0855	15	9	G	G	G	G	G	G	G			G	G	G	G	G		
Well #3AD	02	19 08	1000	13	11	G	G	G	G	G	G	G			G	G	G	G	G	G	G
Well #16A	02	19 08	1010	12	9	G	G	G	G	G	G	G			G	G	G	G	G		
BP-3	02	19 08			1							G									
BP-9	02	19 08			1							G									

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) [illegible]

SAMPLES RECEIVED IN LAB AT 10 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
[illegible]	02 19 08	[illegible]	2/19/08 2:40
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

...ns for completing this form are on the reverse side

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

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. Box 7085, 114 Oakmont Dr.
enville, NC 27858
one (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

LIENT: 6015 Week: 6

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
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 8081A	8260B App. II	8260 App. II 1	8260 App. II 2	8260 App. II 3	PARAMETERS
																						CHLORINE NEUTRALIZED AT COLLECTION
																		<2	<2			pH CHECK (LAB)
						P	P	P	P	P	P		G	G	G	G	G	G	G	G	G	CONTAINER TYPE, P/G
						A	D	A	F D	A	A		E	E	A	A	A	E	E	E	E	CHEMICAL PRESERVATION
Trip Blank					2																	
Equipment Blank	02 19 08				2													G	G			

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
- [X] SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
Y N

SAMPLES COLLECTED BY: (Please Print) Hlgoe / Fox

SAMPLES RECEIVED IN LAB AT 10 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
[illegible] Hlgoe	02 19 08	[illegible]	2/19/08 2:40
[illegible] BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

[illegible] for completing this form are on the reverse side.

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

Nº 159154

ıvironment 1, Inc.
ɔ. Box 7085, 114 Oakmont Dr.
'eenville, NC 27858
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CHAIN OF CUSTODY RECORD

LIENT: 6015 Week: 6

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

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

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	8151A Landfill (G)	PARAMETERS (A)
Well #1					4		
Well #2A					10		
Well #3D					9		
Well #7D					9		
Well #2AD					10		
Well #6D					9		
Well #15R					9		
Well #3AD					11		
Well #16A					9		
BP-3					1		
BP-9					1		

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

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
Y N

SAMPLES COLLECTED BY:
(Please Print)
Hlasse | Fat

SAMPLES RECEIVED IN LAB AT 1.0 °C

	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.) (SAMPLER)		Amutha Sadh 2/19/08	2:40
...UISHED BY (SIG.)		RECEIVED BY (SIG.)	
...G)		RECEIVED BY (SIG.)	

COMMENTS:

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

Environment 1, Inc.
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Greenville, NC 27858

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

CHAIN OF CUSTODY RECORD

CLIENT: 6015 Week: 6

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
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
Trip Blank					2	
Equipment Blank					2	

G

A

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

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

PARAMETERS

CLASSIFICATION:
- [ ] WASTEWATER (NPDES)
- [ ] DRINKING WATER
- [ ] DWQ/GW
- [x] SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
Y N

SAMPLES COLLECTED BY: (Please Print)
H Ogoe / Fox

SAMPLES RECEIVED IN LAB AT 1.0 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
[signature] 02 1908		[signature]	2/19/08 2:00
[illegible]QUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
[illegible]G.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

[illegible]uctions for completing this form are on the reverse side

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

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

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CHAIN OF CUSTODY RECORD

CLIENT: 6015 A **Week: 6**

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

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

																					CHLORINE NEUTRALIZED AT COLLECTION
							L2			L2	L2										pH CHECK (LAB)
						P	P	P	P	G	G										CONTAINER TYPE, P/G
						A	A	A	A	E	E										CHEMICAL PRESERVATION
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										PARAMETERS
SW-1	02 18 08	1140		13	4	G	G	G	G	G	G										
SW-2	02 18 08	1220		13	4	G	G	G	G	G	G										
SW-3	02 18 08	1030		14	4	G	G	G	G	G	G										

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 Igoe / Fox

SAMPLES RECEIVED IN LAB AT 2.8 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bob H Igoe	02 18 08 2:56	[signature]	2/18/08 2:56
[illegible]QUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
[illegible]G.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

CHAIN OF CUSTODY RECORD

Page 1 of 1

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IENT: 6015 B Week: 6

HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX NC 27839

(252) 583-1807

DISINFECTION
- [ ] CHLORINE
- [ ] UV
- [ ] NONE
- [ ] _____

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

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

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Metals	EPA 8260B	8260 Dup. 1	8260 Dup. 2
						C2	C2	C2	C2
						P	G	G	G
						A	E	E	E
Well #17	02 1908	0940		10	4	G	G	G	G
Trip Blank					2				
Well #18 Shallow	02 1908	0910		10	3	G	G	G	
Well #18 Deep	02 1908	0905		10	3	G	G	G	

PARAMETERS

CLASSIFICATION:
- [ ] WASTEWATER (NPDES)
- [ ] DRINKING WATER
- [ ] DWQ/GW
- [x] SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
Y N

SAMPLES COLLECTED BY: (Please Print)
H Hoge / Fox

SAMPLES RECEIVED IN LAB AT 1.0 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
BOG H Hoge 02	1908	[signature]	2/19/08 2:00
[illegible]NQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
[illegible] (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

[illegible]structions for completing this form are on the reverse side.

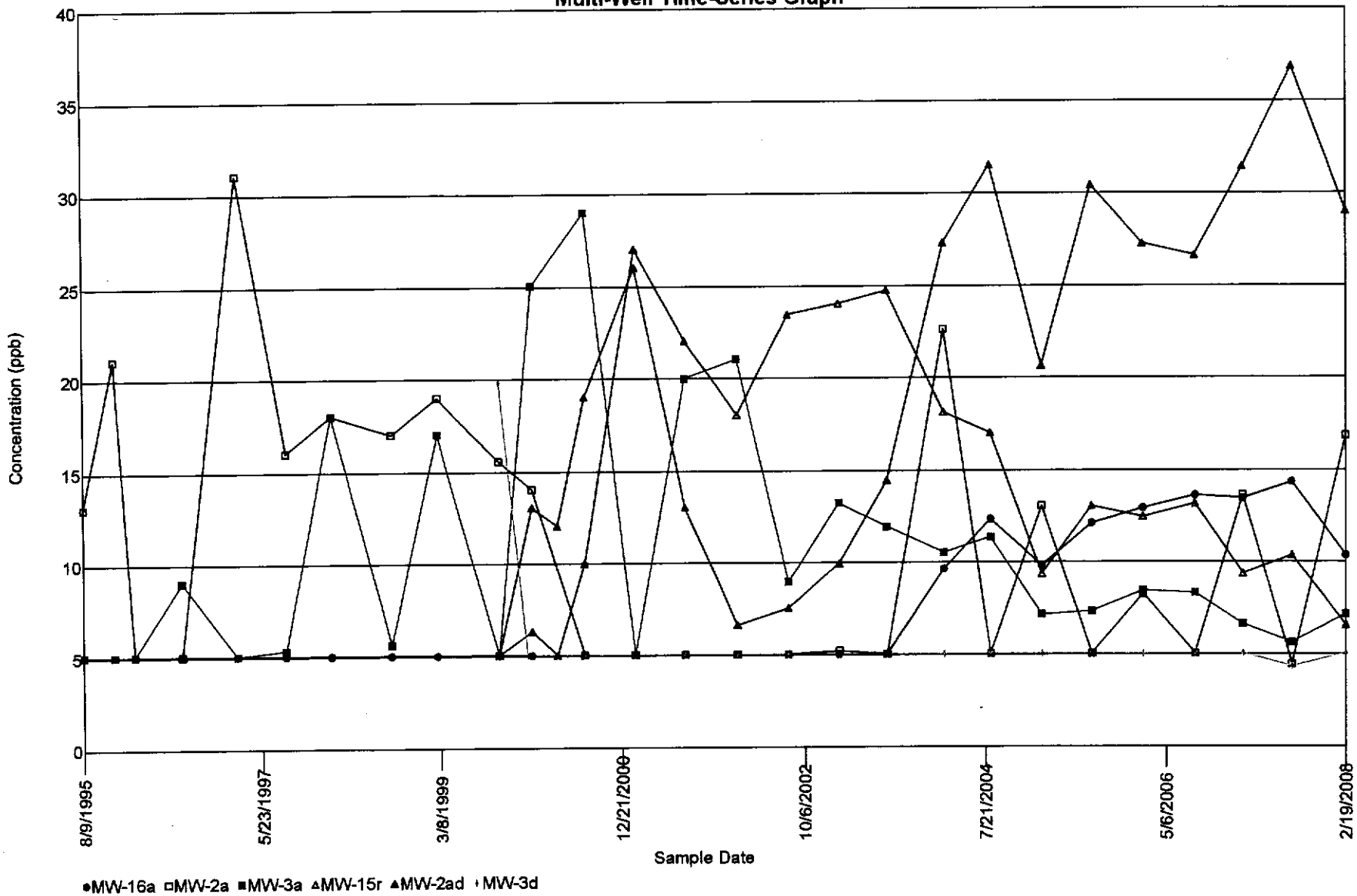
Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

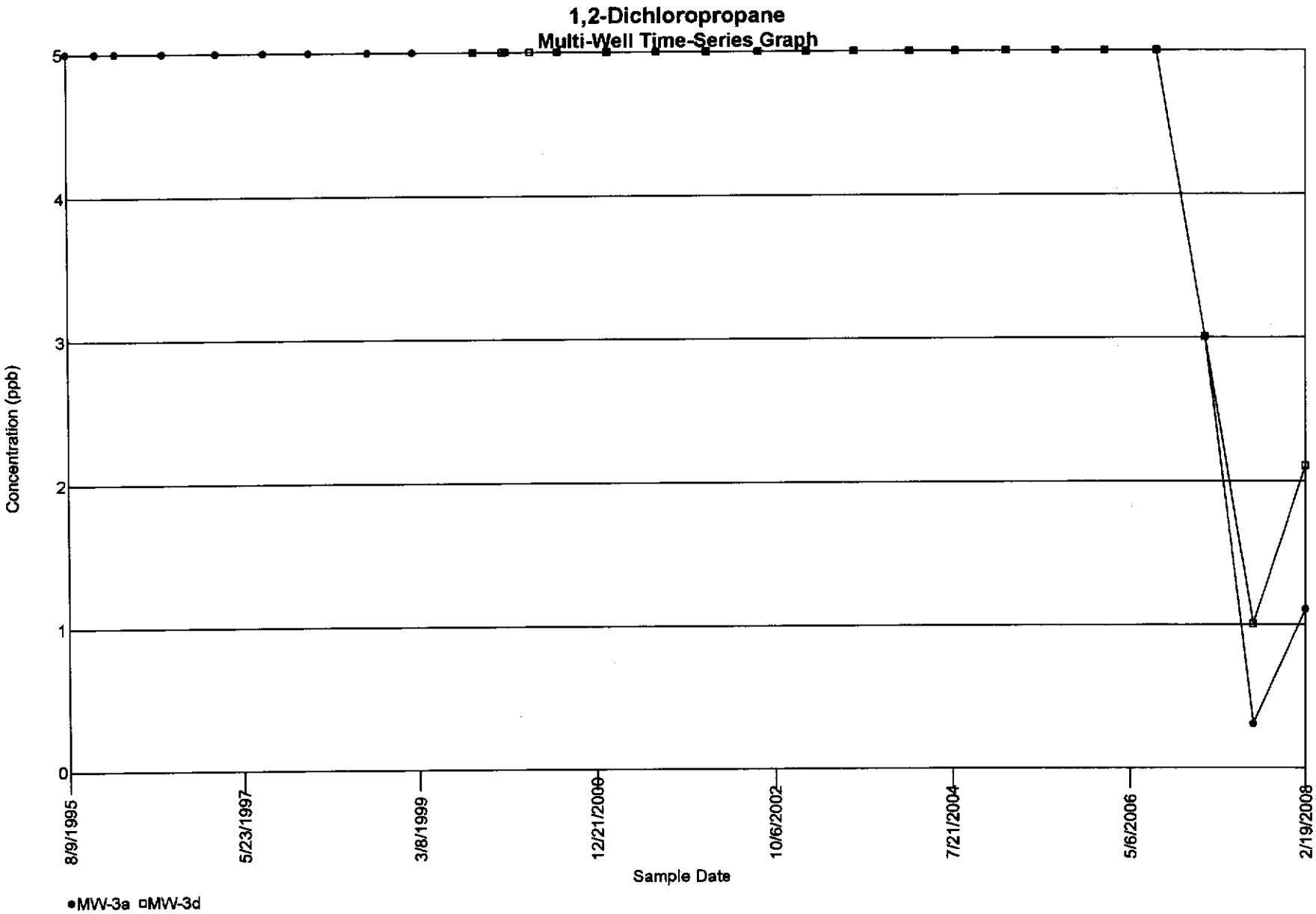
№ 159150

Appendix B

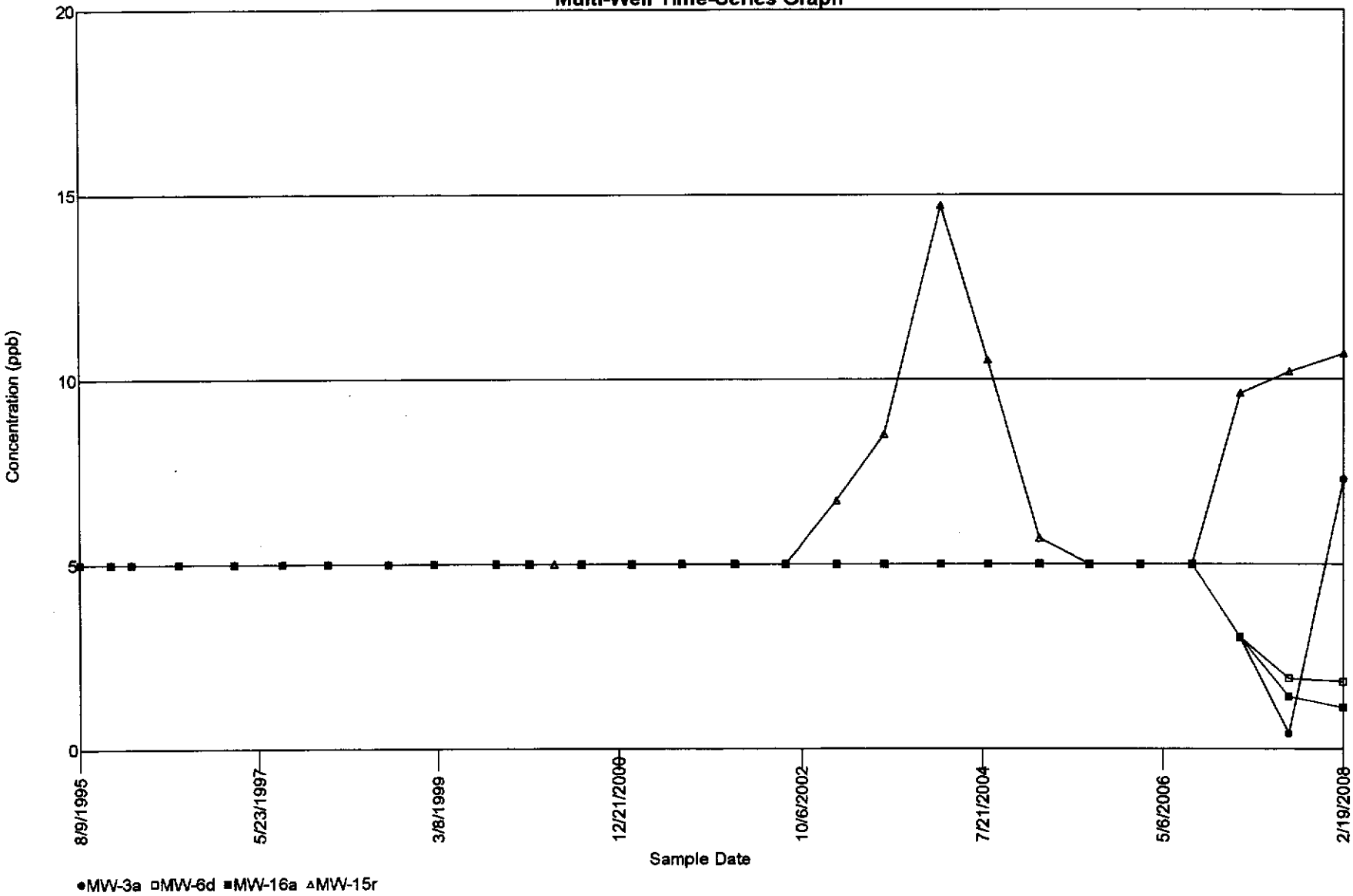
Time vs. Concentration Graphs

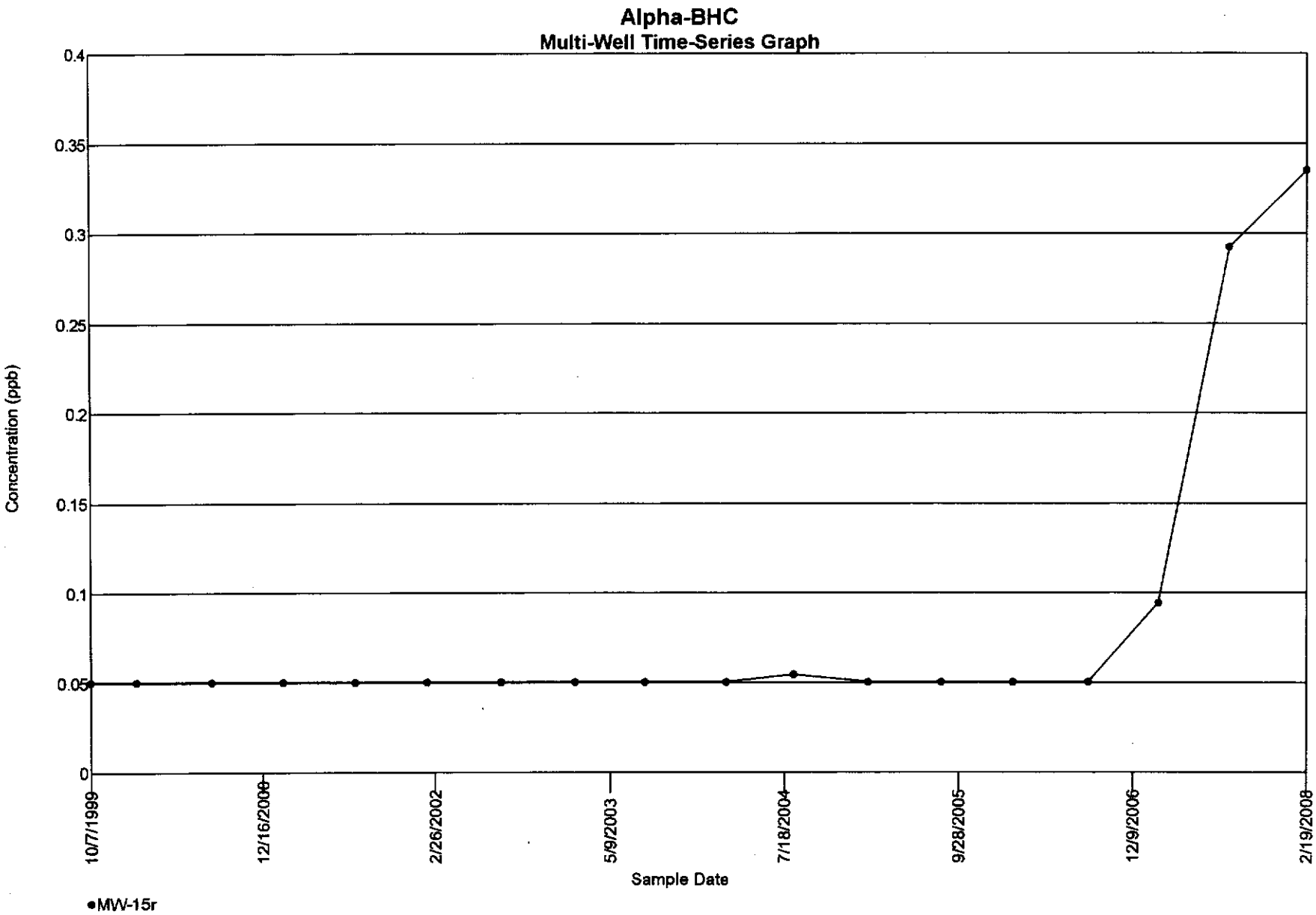
1,1-Dichloroethane
Multi-Well Time-Series Graph

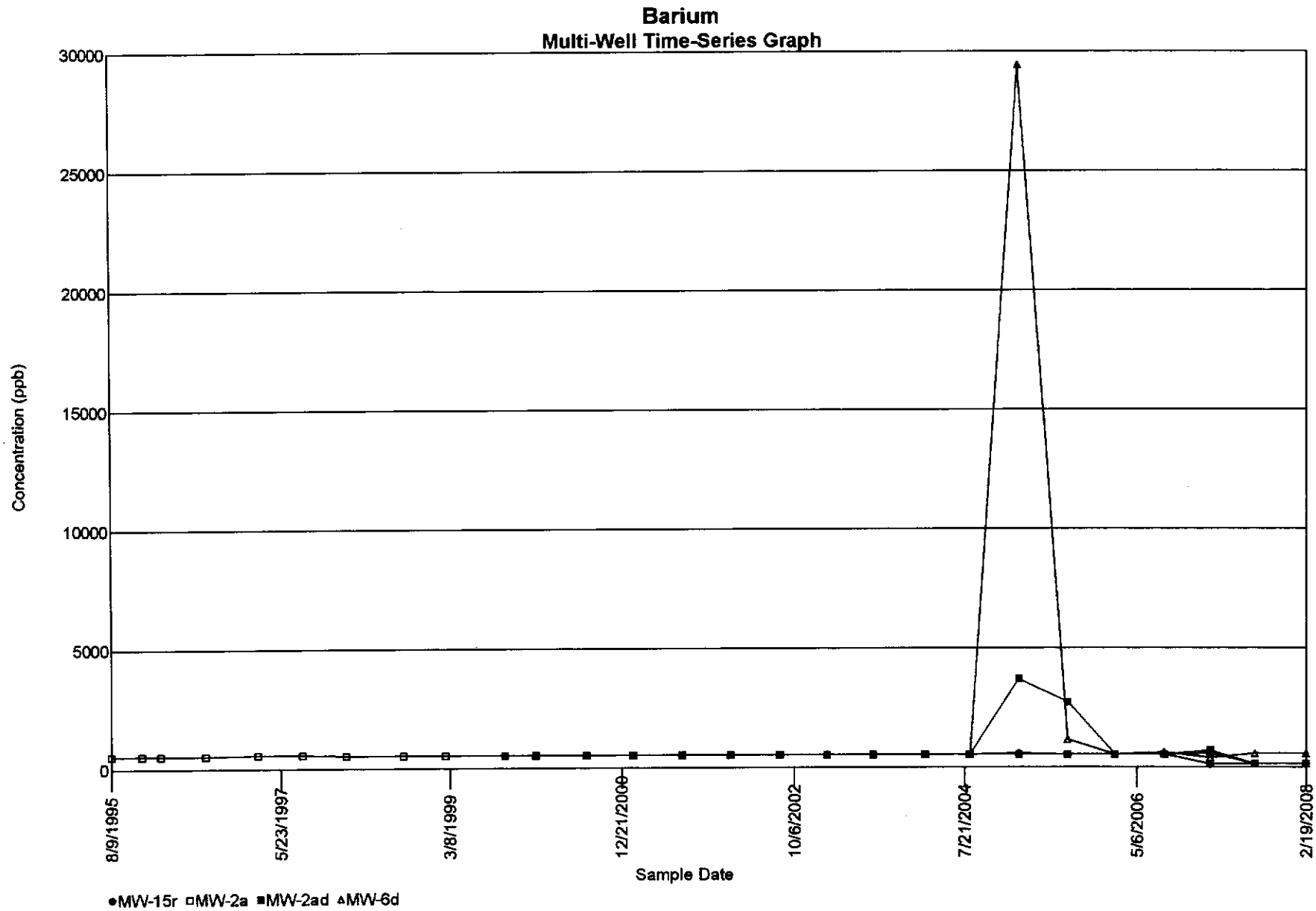


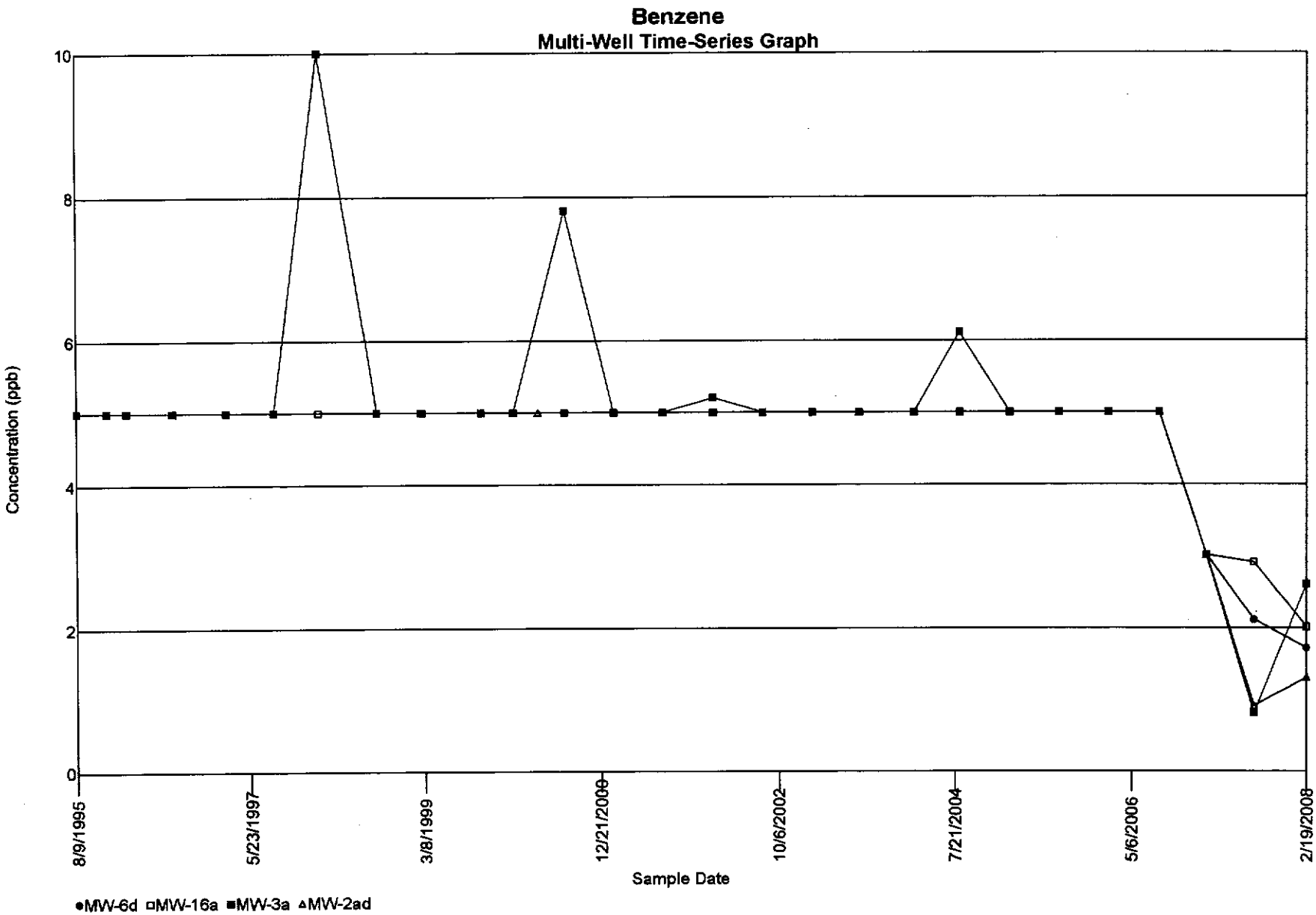

1,2-Dichloropropane
Multi-Well Time-Series Graph
Concentration (ppb)
5
4
3
2
1
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
•MW-3a ▫MW-3d

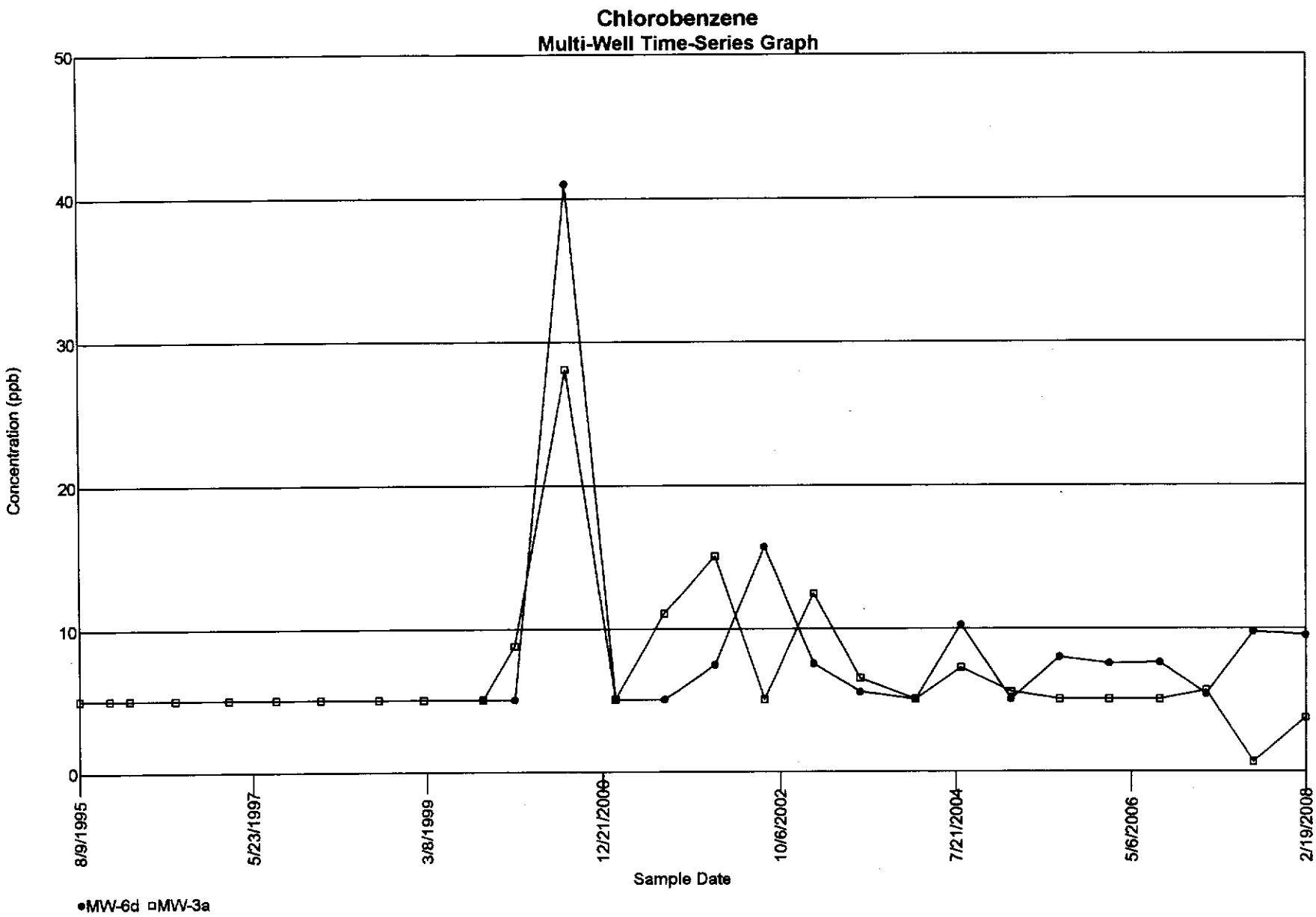
1,4-Dichlorobenzene
Multi-Well Time-Series Graph

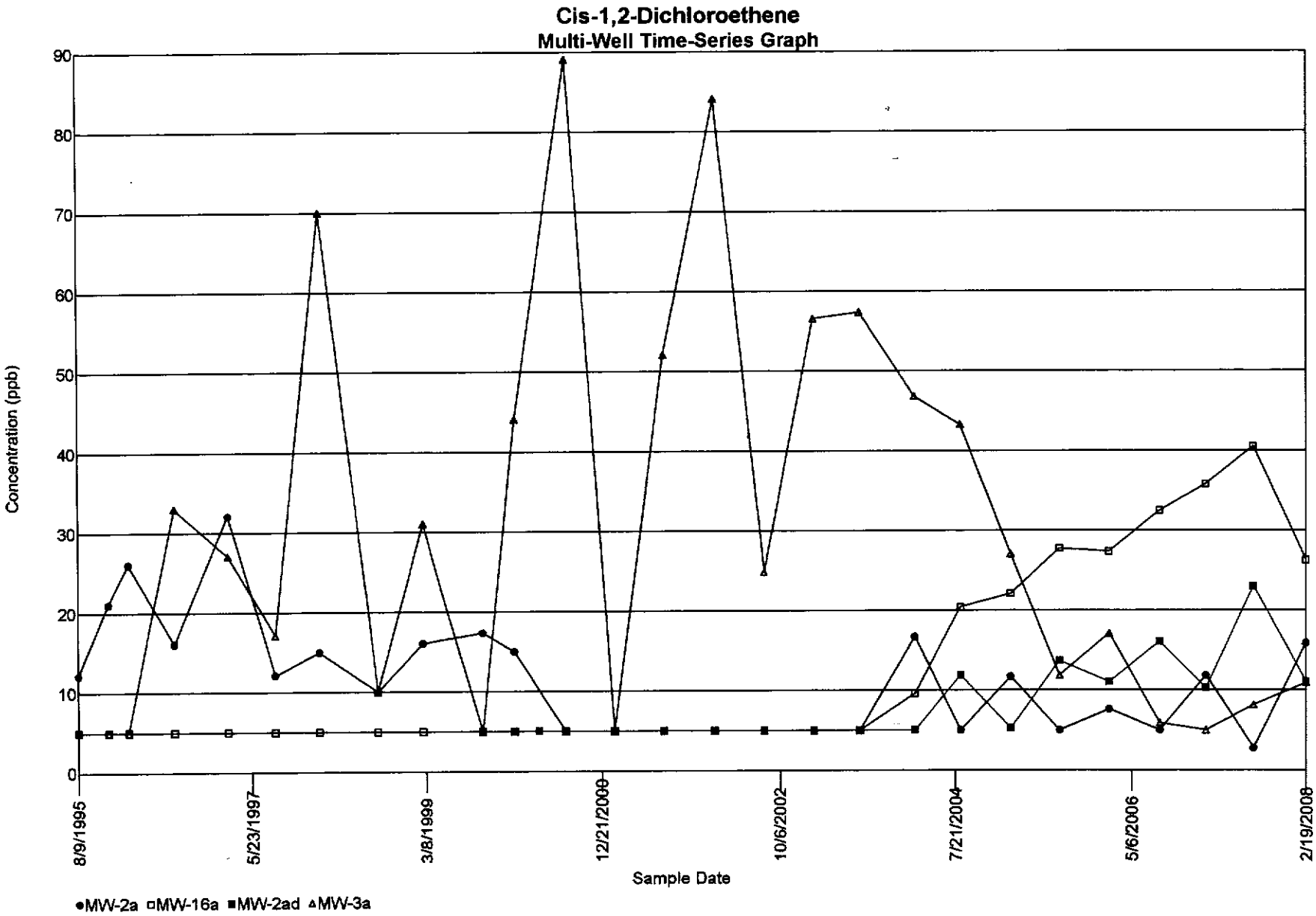


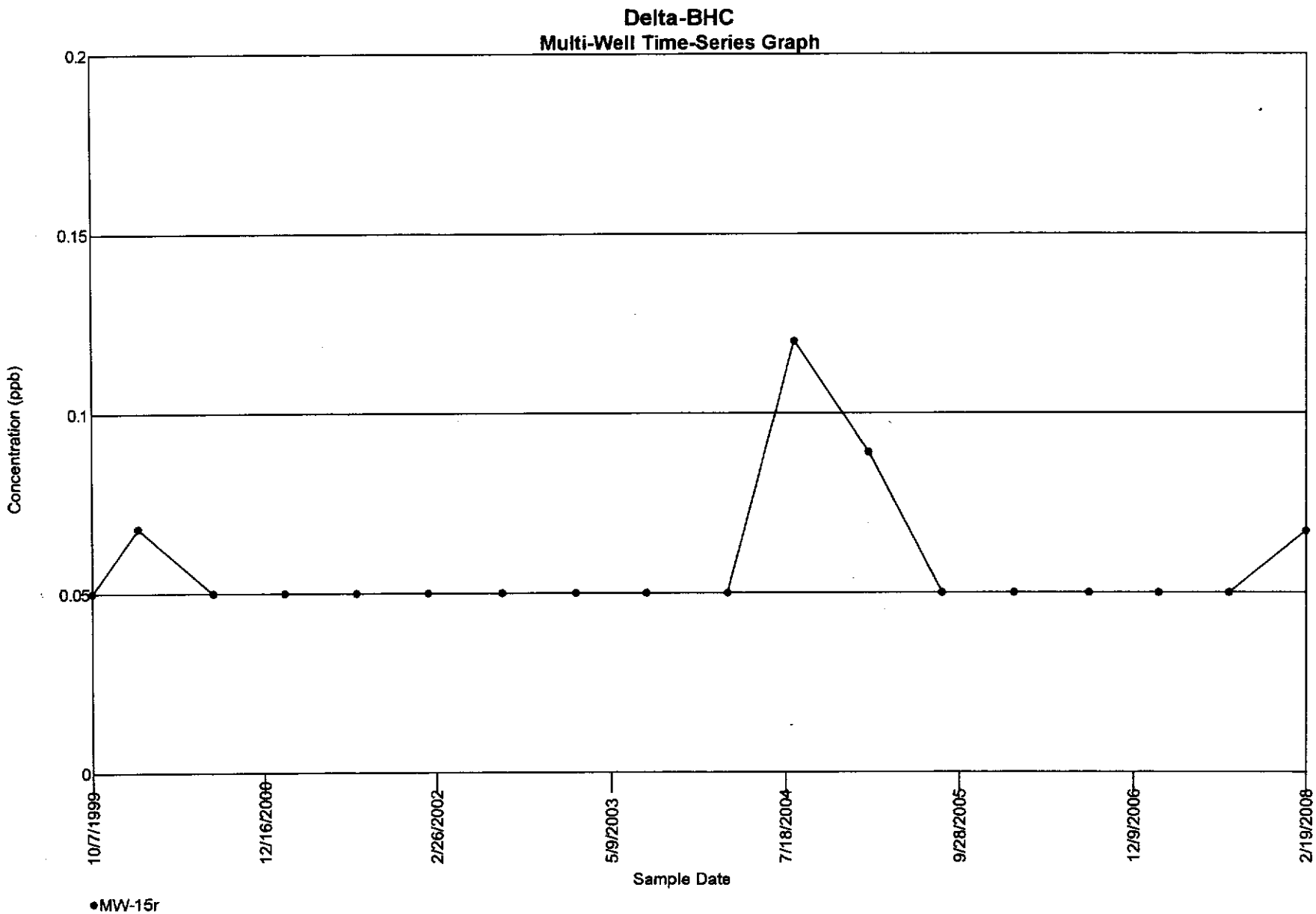

Alpha-BHC
Multi-Well Time-Series Graph
Concentration (ppb)
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
10/7/1999
12/16/2000
2/26/2002
5/9/2003
7/18/2004
9/28/2005
12/9/2006
2/19/2008
Sample Date
MW-15r

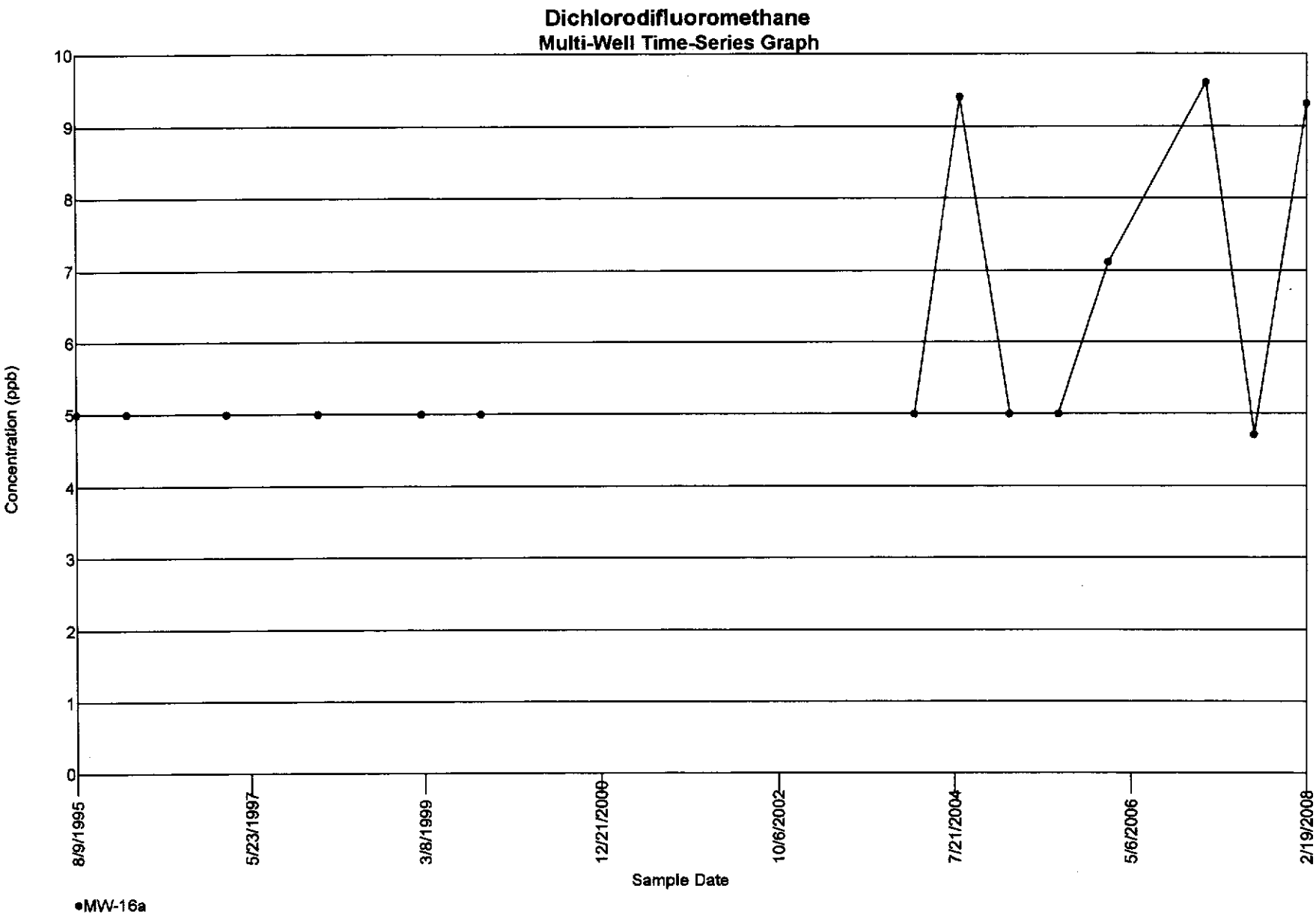

Barium
Multi-Well Time-Series Graph
Concentration (ppb)
30000
25000
20000
15000
10000
5000
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
MW-15r
MW-2a
MW-2ad
MW-6d

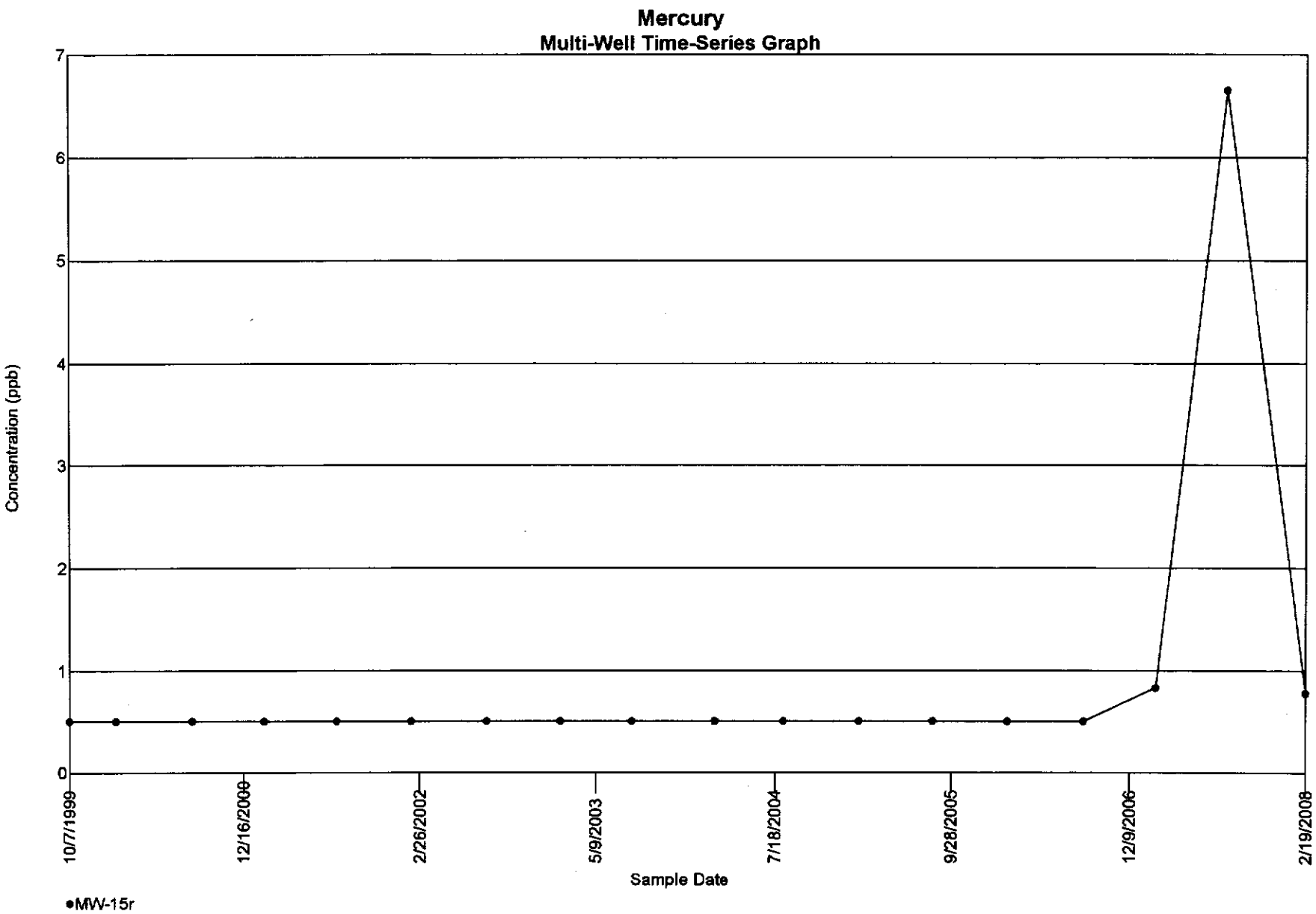

Benzene
Multi-Well Time-Series Graph
Concentration (ppb)
10
8
6
4
2
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
●MW-6d □MW-16a ■MW-3a ▲MW-2ad

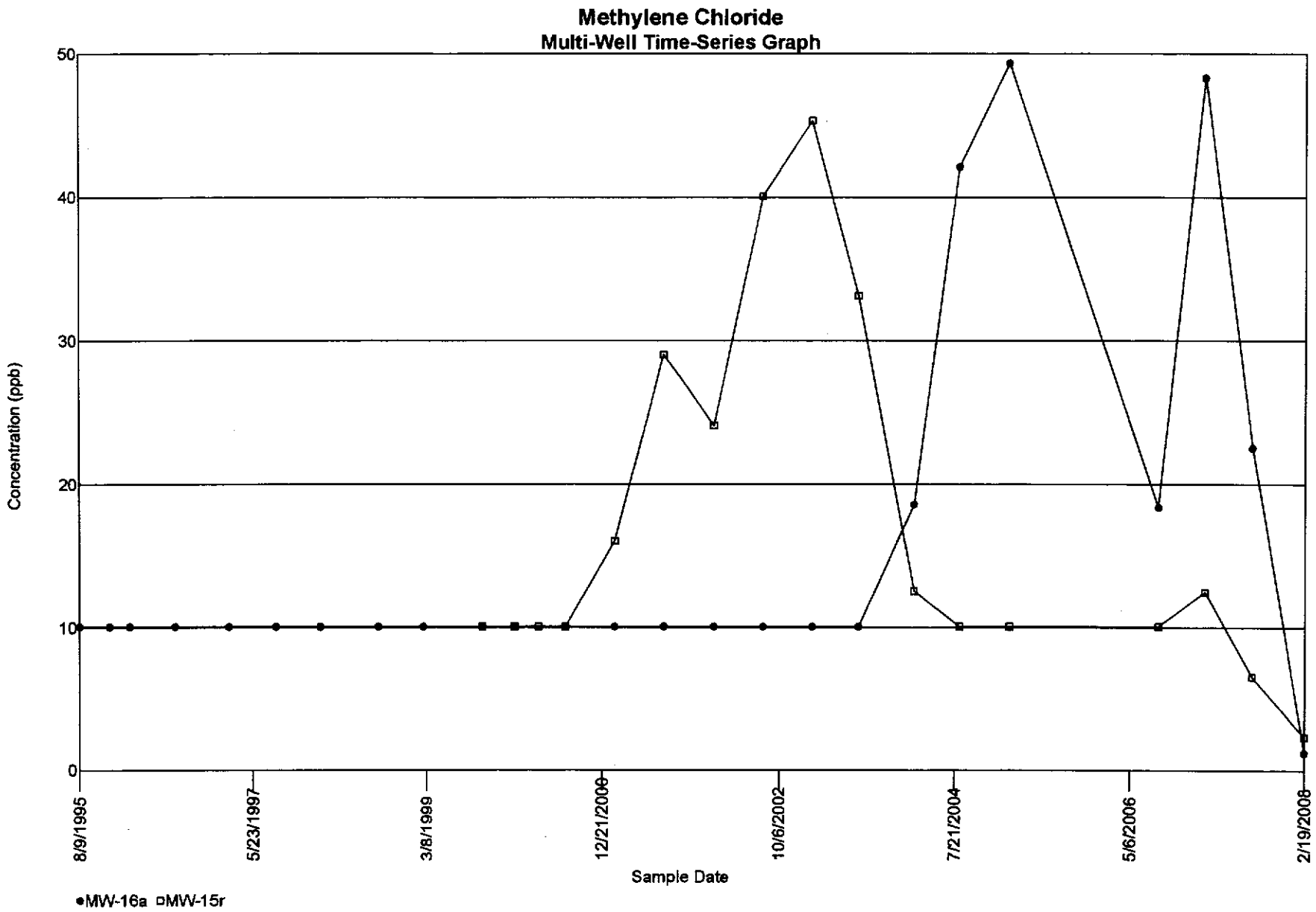

Chlorobenzene
Multi-Well Time-Series Graph
Concentration (ppb)
50
40
30
20
10
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
•MW-6d □MW-3a

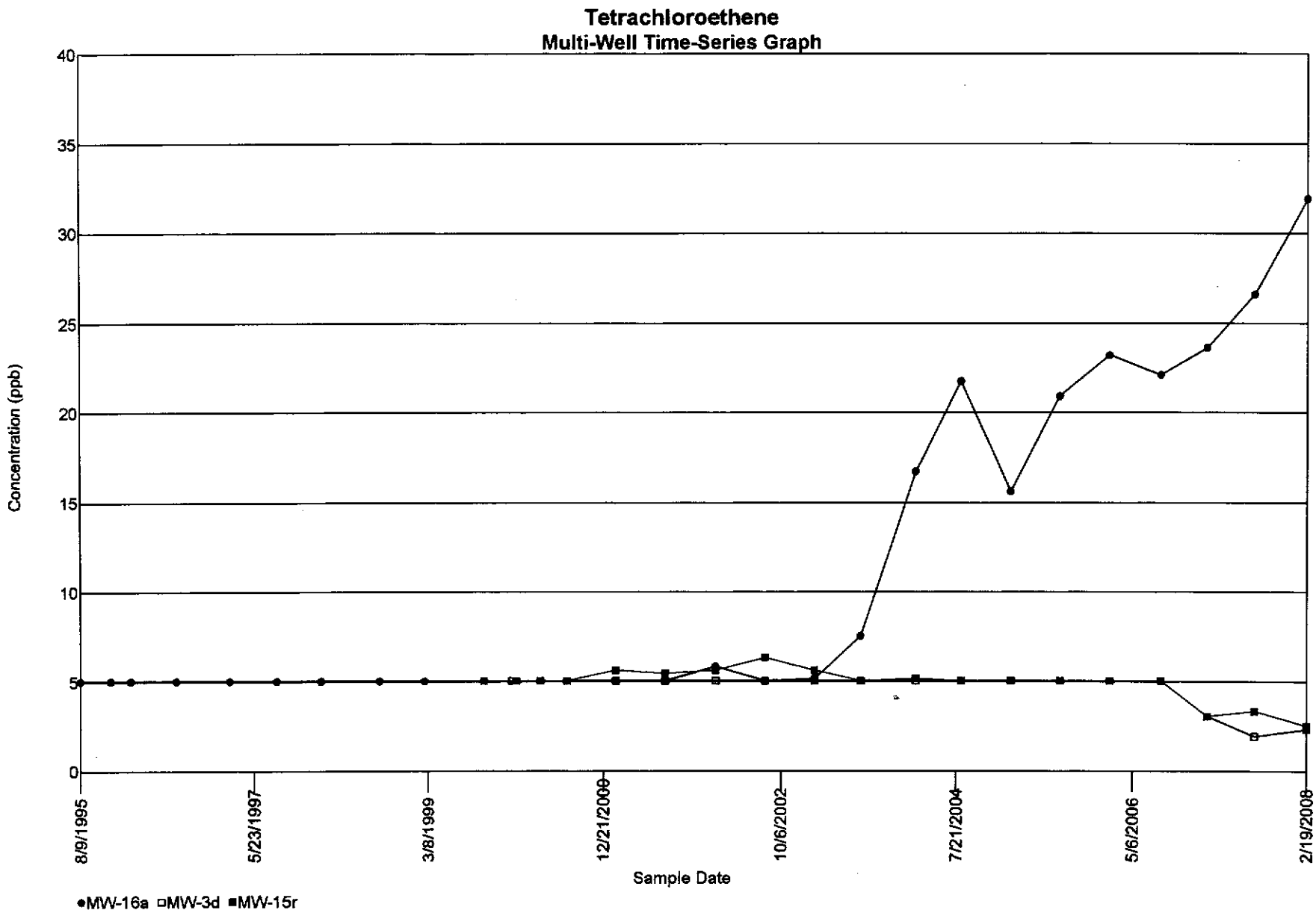

Cis-1,2-Dichloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
90
80
70
60
50
40
30
20
10
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
●MW-2a □MW-16a ■MW-2ad △MW-3a

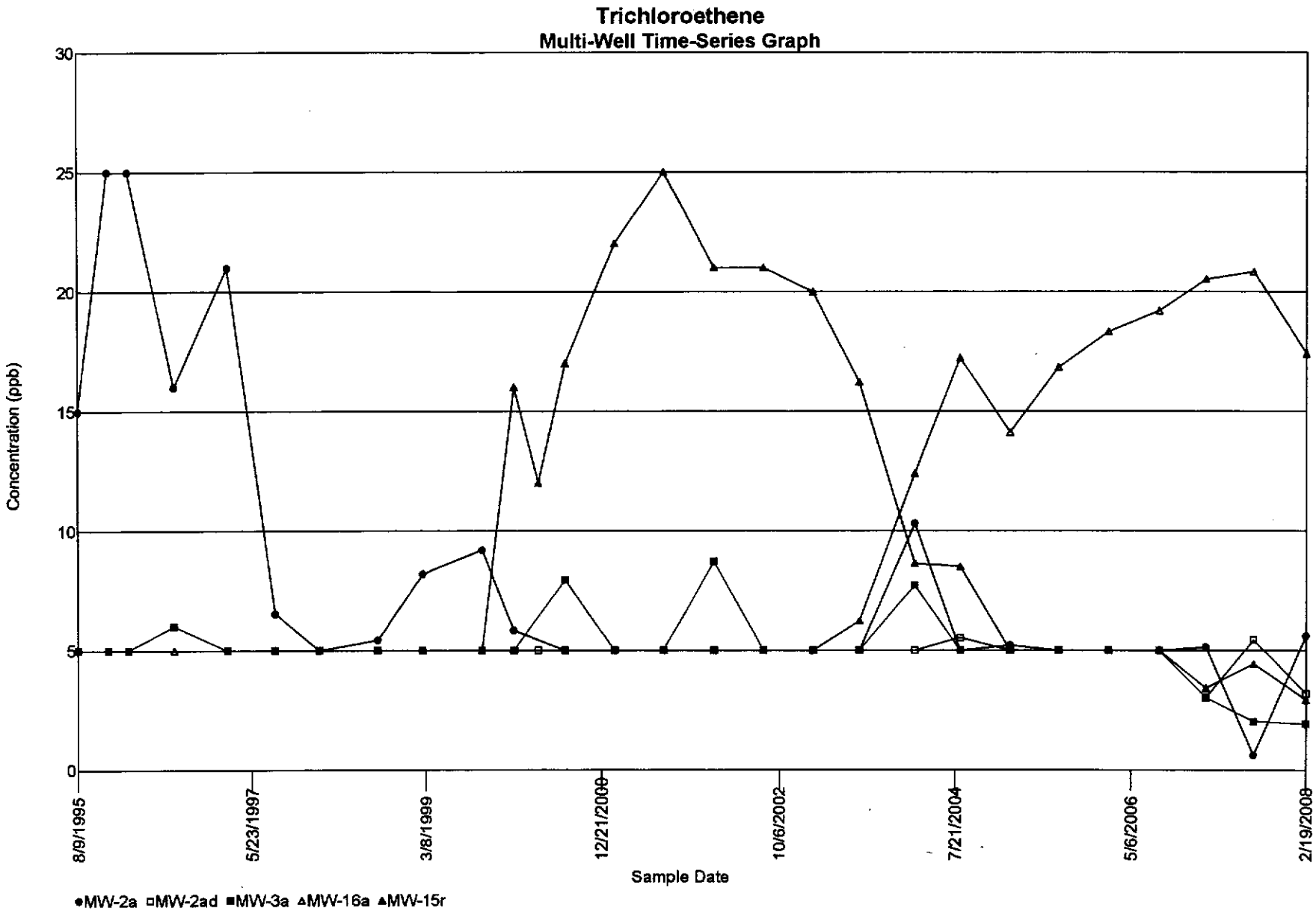

Delta-BHC
Multi-Well Time-Series Graph
Concentration (ppb)
0.2
0.15
0.1
0.05
0
10/7/1999
12/16/2000
2/26/2002
5/9/2003
7/18/2004
9/28/2005
12/9/2006
2/19/2008
Sample Date
MW-15r

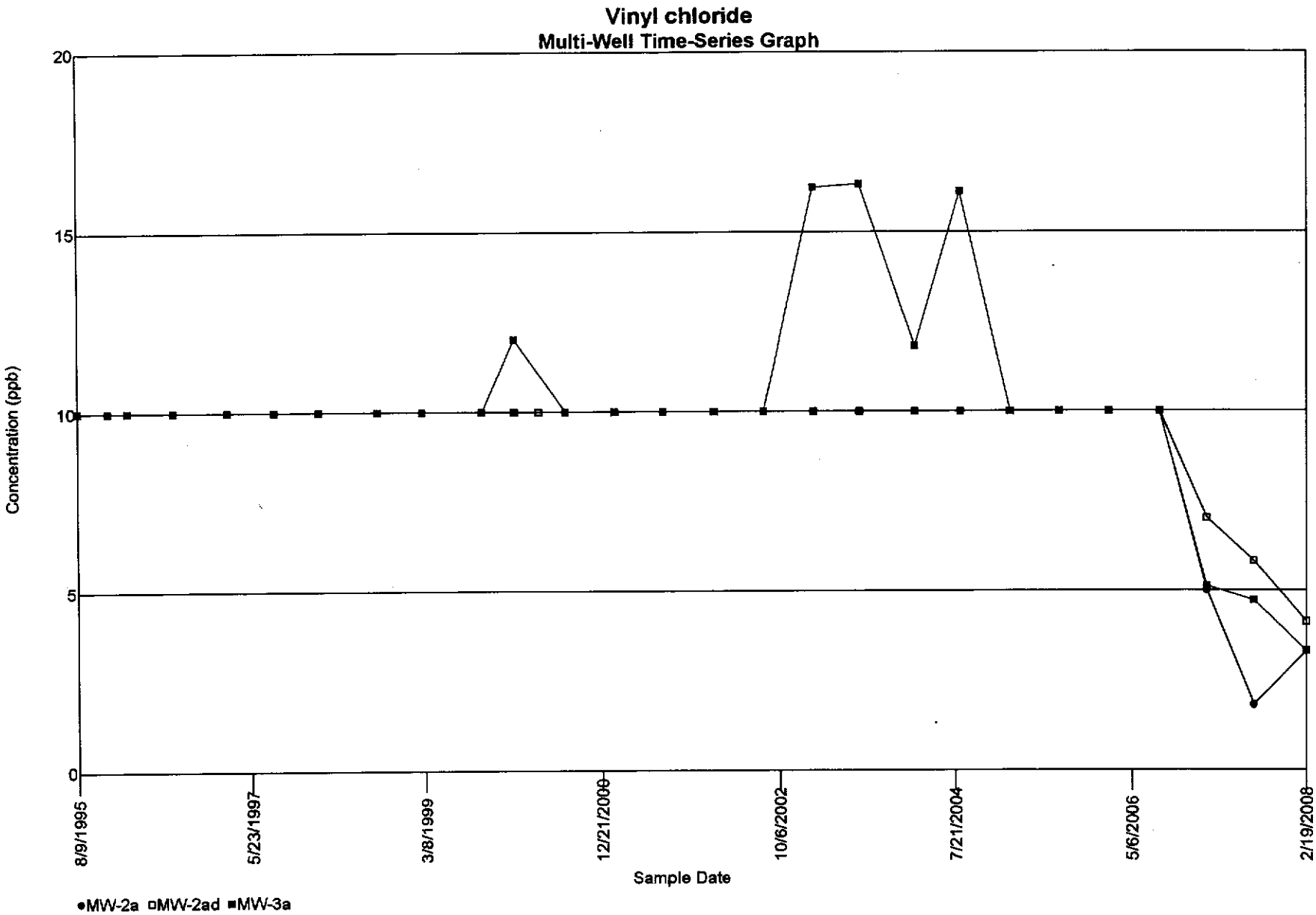

Dichlorodifluoromethane
Multi-Well Time-Series Graph
Concentration (ppb)
10
9
8
7
6
5
4
3
2
1
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
•MW-16a

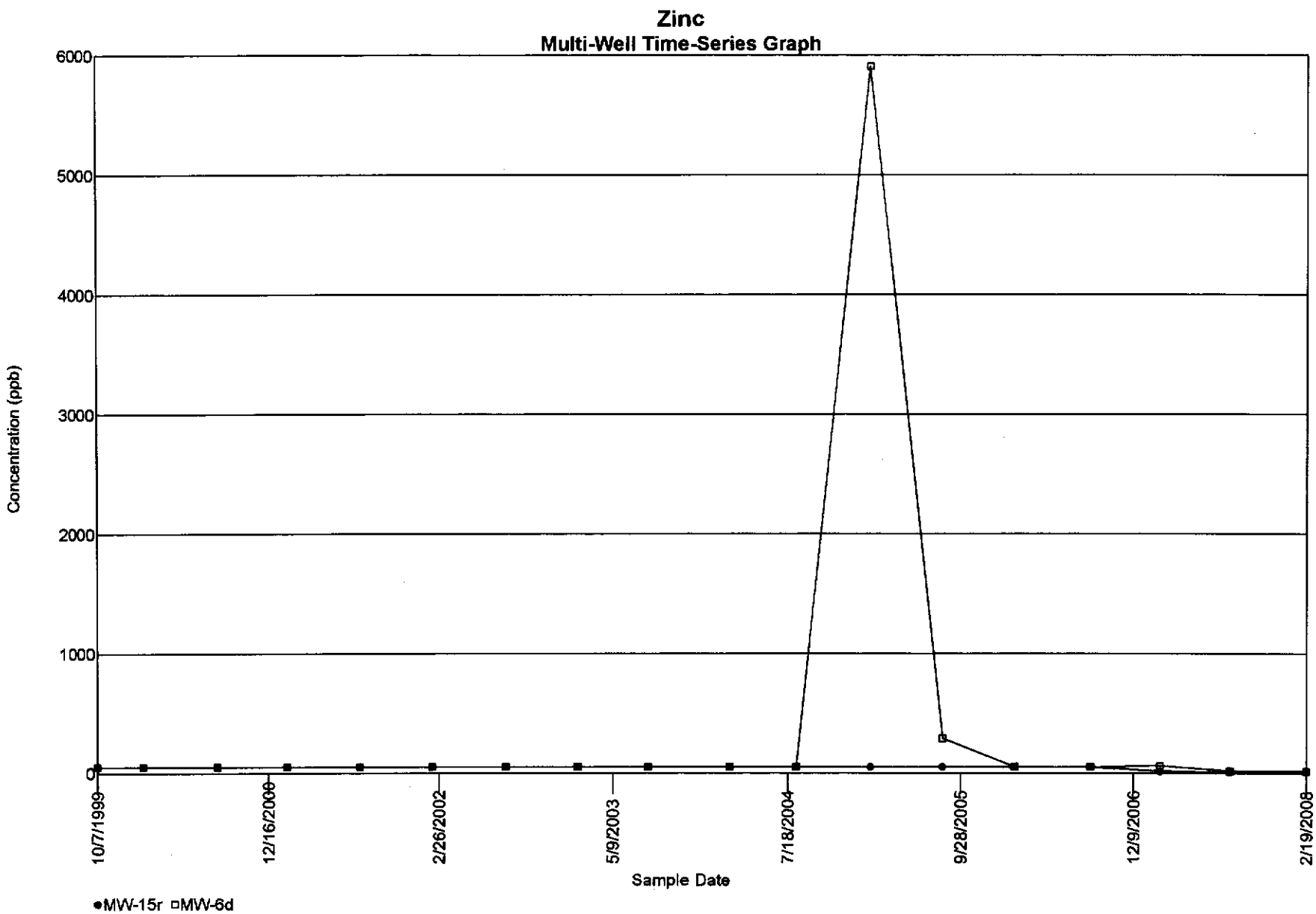

Mercury
Multi-Well Time-Series Graph
Concentration (ppb)
0
1
2
3
4
5
6
7
10/7/1999
12/16/2000
2/26/2002
5/9/2003
7/18/2004
9/28/2005
12/9/2006
2/19/2008
Sample Date
MW-15r

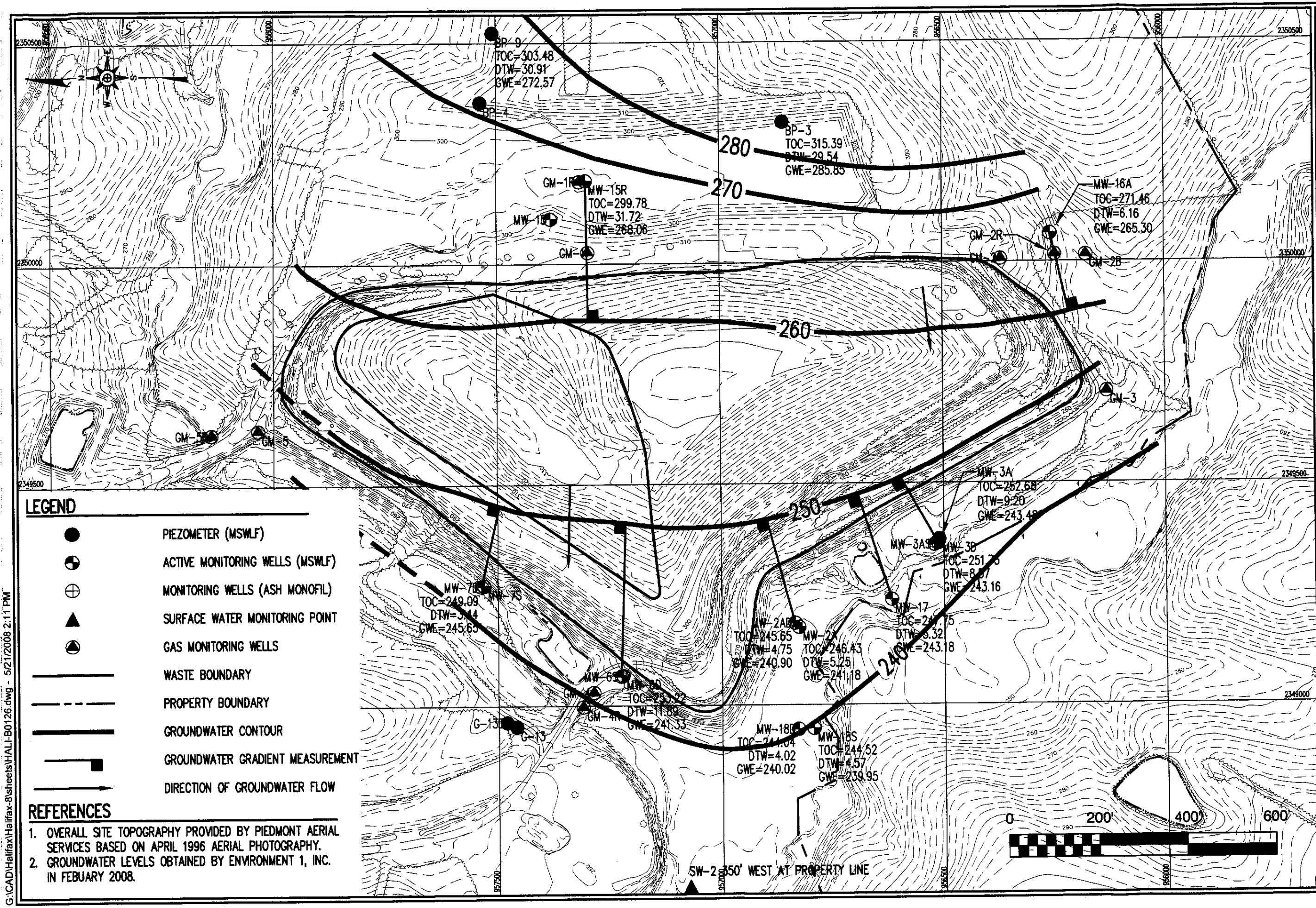

Methylene Chloride
Multi-Well Time-Series Graph
Concentration (ppb)
50
40
30
20
10
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
•MW-16a ▫MW-15r


Tetrachloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
40
35
30
25
20
15
10
5
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
MW-16a
MW-3d
MW-15r


Trichloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
30
25
20
15
10
5
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
●MW-2a □MW-2ad ■MW-3a △MW-16a ▲MW-15r


Vinyl chloride
Multi-Well Time-Series Graph
Concentration (ppb)
20
15
10
5
0
8/9/1995
5/23/1997
3/8/1999
12/21/2000
10/6/2002
7/21/2004
5/6/2006
2/19/2008
Sample Date
•MW-2a ▫MW-2ad ▪MW-3a


Zinc
Multi-Well Time-Series Graph
Concentration (ppb)
6000
5000
4000
3000
2000
1000
0
10/7/1999
12/16/2000
2/26/2002
5/9/2003
7/18/2004
9/28/2005
12/9/2006
2/19/2008
Sample Date
MW-15r
MW-6d



LEGEND

- PIEZOMETER (MSWLF)
- ACTIVE MONITORING WELLS (MSWLF)
- MONITORING WELLS (ASH MONOFIL)
- 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 FEBUARY 2008.

RICHARDSON SMITH GARDNER & ASSOCIATES

FIGURE NO.	1
FILE NAME	HALI-B0126
SCALE:	AS SHOWN
PROJECT NO.	HALIFAX 8
CHECKED BY:	
DRAWN BY:	J.A.L.
DATE:	May, 2008

TITLE: HALIFAX COUNTY LANDFILL GROUND WATER POTENTIOMETRIC SURFACE MAP FEBRUARY 2008

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