**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).
- 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<br>Halifax, NC 27839 | 42-04 | .0500 | August 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. — Facility Representative Name (Print)

Senior Hydrogeologist — Title

919-828-0577 x 122 — (Area Code) Telephone Number

Joan A. Smyth — Signature

11/10/08 — Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:

NORTH CAROLINA LICENSED SEAL 1369 GEOLOGIST JOAN A. SMYTH

Revised 01/2007

# Ground Water Monitoring Report
# Halifax County Landfill

## August 2008 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 11/10/08

Joan A. Smyth, P.G.
Senior Hydrogeologist

NORTH CAROLINA LICENSED SEAL 1369 GEOLOGIST JOAN A. SMYTH

**November 2008**


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

# Halifax County Landfill

# Ground Water Monitoring Report

# August 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

**November 2008**

**Richardson Smith Gardner & Associates, Inc.**
Engineering and Geological Services
14 North Boylan Avenue
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**Halifax County Landfill**

**Semi-annual Ground Water Monitoring Report**
**August 2008 Monitoring Event**

1.0 INTRODUCTION .....1

2.0 SAMPLING PROCEDURES .....1

3.0 FIELD AND LABORATORY RESULTS .....2
3.1 Laboratory Analysis.....2
3.2 Field and Laboratory Results.....2

4.0 STATISTICAL ANALYSIS AND RESULTS.....2
4.1 Statistical Analysis.....2
4.2 Statistical Results.....3
4.3 2L/MCL Statistical Analysis .....3

5.0 GROUND WATER CHARACTERIZATION.....3

6.0 CONCLUSIONS.....4

**FIGURES**

Figure 1 – Ground Water Potentiometric Map

**TABLES**

Table 1 – Ground Water Elevations & Velocities
Table 2 – Field Parameters
Table 3 – Detected Inorganic Constituents
Table 4 – Detected Organic Constituents
Table 5 – Statistical Analysis Summary

**APPENDICES**

Appendix A – Laboratory Analytical Reports
Appendix B – Time vs. Concentration Graphs

## 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 second semi-annual monitoring event for 2008, conducted on August 19th, 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 (4) inorganic constituents (barium, beryllium, mercury and zinc) , shown in **Table 3** were detected in six (6) monitoring wells including the background well, MW-1. Only one (1) constituent, beryllium, was found at concentrations above its respective 2L standard in MW-1. Three (3) inorganic constituents (beryllium, lead and zinc) were detected in two surface water samples, SW-1, and SW-3. The locations of these samples are shown on **Figure 1**.

Eleven (11) 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). Four (4) constituents were found at concentrations above their respective 2L standards. These are highlighted on **Table 4**.

Constituents detected below the SWSL are denoted as “J” values and are also included in **Tables 3 & 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 August 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, MW-16a, MW-17, MW-18s and MW-18d 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, 1,1-dichloroethane (MW-3d, MW-3a, MW-2ad, MW-2a, MW-16a), barium (MW-6d), chlorobenzene (MW-6d), cis-1,2-dichloromethane (MW-2ad, MW-2a and MW-16a), dichlorodifluoromethane (MW-16a), mercury (MW-15r), methylene chloride (MW-16a), tetrachloroethene (MW-16a), and trichloroethene (MW-16).

### 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 barium (MW-6d), mercury (MW-15r), methylene chloride (MW-16a), tetrachloroethene (MW-16a), and trichloroethene (MW-16).

## 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: $V = KI/n$

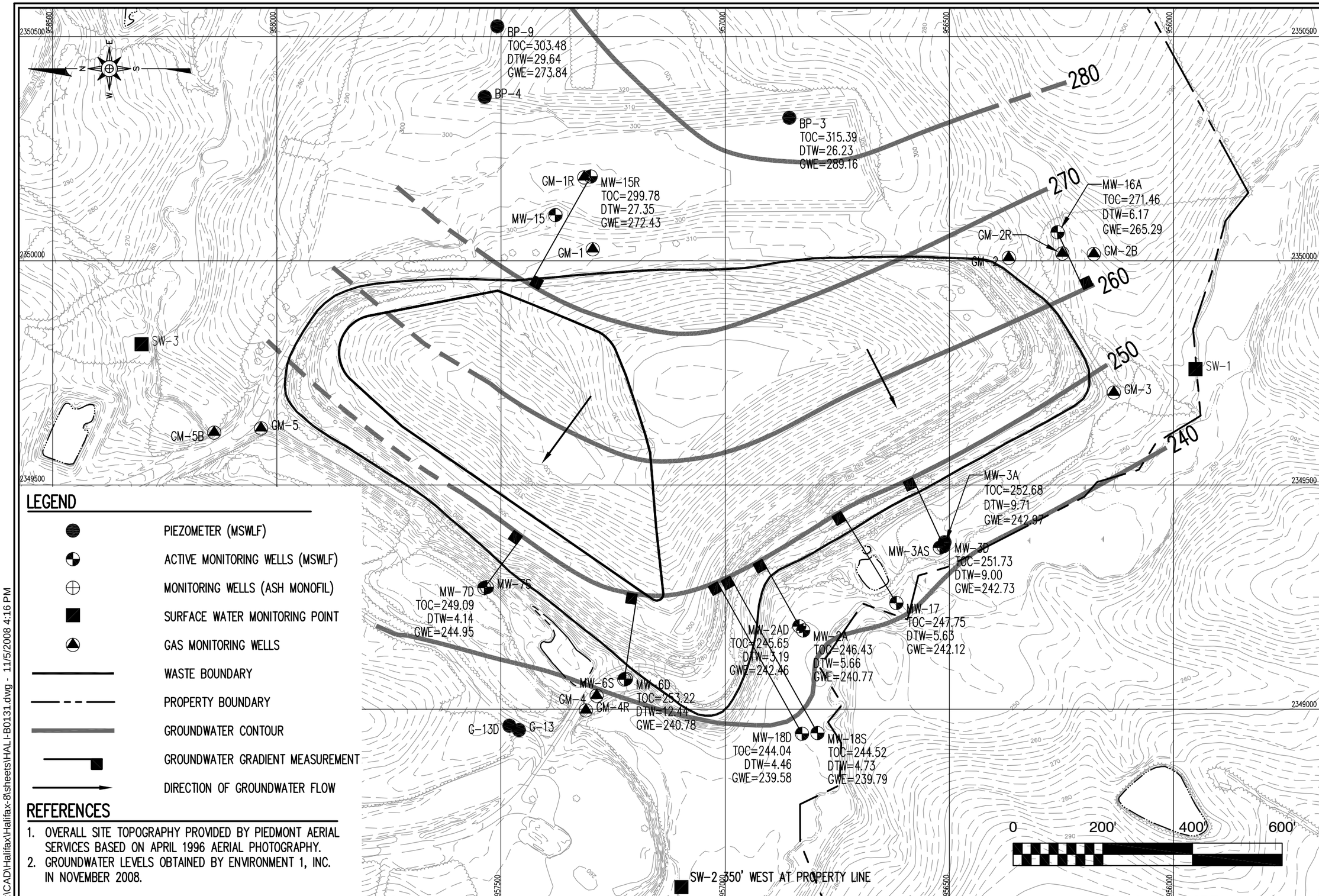
where: K = hydraulic conductivity
I = ground water gradient
n = porosity

Ground water flow velocities ranged from 0.011 ft/day (MW-16a) to 0.44 ft/day (MW-2a). These calculated flow velocities are included in **Table 1**.

## 6.0 Conclusions

In general, contaminant concentrations have remained stable over time with the exception of trichloroethane and cis 1,2-dichloroethene in well MW-16a. These increases may be due to an increase in gas production in this area. Landfill gas in this area has been addressed in the Corrective Action Plan recently submitted to NCDENR which is currently under review. The next monitoring event will be conducted in February 2009.

Figures




## 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 NOVEMBER 2008.

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| | |
|---|---|
| FIGURE NO. | 1 |
| FILE NAME | HALI-B0131 |
| SCALE: | AS SHOWN |
| PROJECT NO. | HALIFAX 8 |
| CHECKED BY: | |
| DRAWN BY: | J.A.L. |
| DATE: | Nov. 2008 |

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

G:\CAD\Halifax\Halifax-8\sheets\HALI-B0131.dwg - 11/5/2008 4:16 PM

Tables

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

| 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 | -- | 31.85 | -- | -- | -- | -- | -- |
| MW-2a | 246.43 | 5.66 | 240.77 | 1.835 | 0.2 | 0.048 | 0.440 |
| MW-2ad | 245.65 | 3.19 | 242.46 | -- | -- | 0.044 | -- |
| MW-3a | 252.68 | 9.71 | 242.97 | 0.311 | 0.2 | 0.041 | 0.064 |
| MW-3d | 251.73 | 9 | 242.73 | -- | -- | 0.041 | -- |
| MW-6d | 253.22 | 12.44 | 240.78 | -- | -- | 0.046 | -- |
| MW-7d | 249.09 | 4.14 | 244.95 | -- | -- | 0.036 | -- |
| MW-15r | 299.78 | 27.35 | 272.43 | -- | 0.2 | 0.009 | -- |
| MW-16a | 271.46 | 6.17 | 265.29 | 0.057 | 0.2 | 0.037 | 0.011 |
| MW-17 | 247.75 | 5.63 | 242.12 | -- | -- | 0.010 | -- |
| MW-18s | 244.52 | 4.73 | 239.79 | -- | -- | 0.026 | -- |
| MW-18d | 244.04 | 4.46 | 239.58 | -- | -- | 0.027 | -- |
| BP-3 | 315.39 | 26.23 | 289.16 | -- | -- | 0.023 | -- |
| BP-9 | 303.48 | 29.64 | 273.84 | -- | -- | 0.0091 | -- |

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**
**08/19/08**

| Monitoring Location | pH (std units) | Specific Conductivity (umhos/cm) | Temperature (degrees C) |
|---|---|---|---|
| MW-1 | 5.5 | 31 | 16 |
| MW-2a | 6.1 | 257 | 21 |
| MW-2ad | 6.5 | 551 | 20 |
| MW-3a | 6.2 | 714 | 18 |
| MW-3d | 6.1 | 172 | 19 |
| MW-6d | 6.0 | 549 | 16 |
| MW-7d | 6.2 | 42 | 17 |
| MW-15r | 5.0 | 50 | 17 |
| MW-16a | 5.8 | 148 | 17 |
| MW-17 | 6.0 | 141 | 22 |
| MW-18s | 6.3 | 213 | 23 |
| MW-18d | 6.3 | 176 | 23 |
| SW-1 | 6.6 | 97 | 21 |
| SW-2 | 6.3 | 332 | 22 |
| SW-3 | 6.2 | 749 | 20 |

Note: Field data collected by Environment 1 Personnel.

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

| Monitoring Location | SWSL | 2L Standard | MW-1 | MW-2a | MW-2ad | MW-3a | MW-3d | MW-6d | MW-7d | MW-15r | MW-16a | MW-17 | MW-18D | MW-18S | SW-1 | SW-2 | SW-3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 6 | --- | 0.3 J | ND | ND | ND | ND | ND | ND | 0.1 J | ND | ND | ND | ND | ND | 0.2 J | ND |
| Arsenic | 10 | 50 | 1.2 J | 2.2 J | 1 J | 1.7 J | 0.2 J | 0.4 J | 0.3 J | 0.2 J | 0.2 J | 0.5 J | 0.3 J | 2 J | 2.1 J | 1.6 J | 2.7 J |
| Barium | 100 | 2000 | 81.9 J | **129** | **115** | 67.2 J | 61.8 J | **576** | 35.2 J | 82.1 J | 87.1 J | 60.4 J | 75.7 J | 91.2 J | 94 J | 60.5 J | 38 J |
| Beryllium | 1 | --- | **1.4** | 0.4 J | 0.1 J | 0.1 J | 0.2 J | 0.5 J | 0.1 J | 0.2 J | 0.4 J | 0.5 J | 0.1 J | ND | 0.5 J | ND | **2.2** |
| Cadmium | 1 | 1.75 | 0.3 J | 0.1 J | 0.5 J | 0.2 J | 0.1 J | 0.6 J | 0.1 J | 0.2 J | 0.2 J | 0.1 J | 0.1 J | 0.1 J | 0.5 J | 0.1 J | **1.2** |
| Chromium, total | 10 | 50 | 1.7 J | 0.3 J | ND | ND | ND | ND | ND | ND | ND | 0.2 J | ND | ND | 4.6 J | ND | 0.4 J |
| Cobalt | 10 | --- | 2.8 J | 9.1 J | 4.2 J | 4.1 J | 0.1 J | 3.7 J | 0.1 J | 0.5 J | 0.2 J | 1.1 J | 0.3 J | 6.6 J | 2 J | 0.6 J | 2.4 J |
| Copper | 10 | 1000 | 2.8 J | 1 J | 0.7 J | 0.8 J | ND | 0.6 J | 0.7 J | 1.1 J | ND | 1 J | 0.3 J | 0.2 J | 5.9 J | 0.1 J | 1 J |
| Lead | 10 | 15 | 6.6 J | 0.7 J | 0.7 J | 0.8 J | 0.2 J | 0.6 J | 0.7 J | 0.3 J | 0.2 J | 2.1 J | 0.5 J | 0.2 J | **23** | 0.2 J | 0.8 J |
| Mercury | 0.2 | 1.05 | ND | 0.11 J | 0.13 J | 0.08 J | 0.18 J | 0.11 J | 0.03 J | **0.74** | **0.41** | ND | ND | ND | ND | ND | ND |
| Nickel | 50 | 100 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Selenium | 10 | 50 | 0.6 J | 0.2 J | 0.2 J | 0.9 J | 0.2 J | 0.7 J | ND | 0.2 J | ND | 0.3 J | ND | 0.2 J | 0.3 J | 2.2 J | 7 J |
| Silver | 10 | 17.5 | 0.1 J | 0.2 J | ND | ND | 0.2 J | ND | 0.1 J | ND | ND | 0.1 J | ND | ND | 0.1 J | 0.1 J | 0.2 J |
| Thallium | 5 | 5 | 0.2 J | ND | 0.1 J | ND | 0.1 J | ND | 0.1 J | 0.2 J | ND | 0.1 J | ND | ND | 0.1 J | ND | ND |
| Tin | 100 | --- | ND | 2.9 J | 0.9 J | 0.6 J | 0.7 J | 0.5 J | 4.2 J | 2.6 J | 0.3 J | ND | ND | ND | ND | ND | ND |
| Vanadium | 25 | --- | 6.9 J | 2.8 J | 1.8 J | 1.6 J | 0.9 J | 1.4 J | 0.8 J | 0.4 J | 0.6 J | 3.4 J | 2 J | 1 J | 15.9 J | 0.7 J | 11.7 J |
| Zinc | 10 | 1050 | **21** | 3 J | 5.7 J | 5.2 J | 1.5 J | 9.8 J | 3.1 J | 3 J | 6.6 J | 6.5 J | 3.8 J | 2.3 J | **71** | 2 J | **32** |

| | | |
|---|---|---|
| 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 |
| J | - | Detected constituents below the SWSL limit. |
| | | All results in ug/L |

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

| Monitoring Location | SWSL | 2L Standard | MW-1 | MW-2a | MW-2ad | MW-3a | MW-3d | MW-6d | MW-7d | MW-15r | MW-16a | MW-17 | MW-18D | MW18S | SW-1 | SW-2 | SW-3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Acetone** | 100 | 700 | 5.7 J | 5.4 | 5.6 | 6.6 J | 3.9 J | 4.7 J | 5.1 J | 5.1 J | 4.6 J | 5.3 J | 5 J | 5.4 J | 6.1 J | 7.4 J | 6.3 J |
| **Benzene** | 1 | 1 | ND | 0.6 J | **1.2** | **2.1** | 0.3 J | **2.2** | ND | ND | **2.7** | ND | ND | ND | ND | ND | ND |
| **Bis- (2-Ethylhexyl) Phthalate** | 15 | --- | ND | ND | ND | ND | ND | ND | 14.8 J | 14.3 J | ND | ND | ND | ND | ND | ND | ND |
| **2-Butanone** | 100 | --- | 4.4 J | 3.5 J | 4 J | 4.6 J | 2.7 J | 3.1 J | 3.6 J | 3.4 J | 2.8 J | 3.8 J | 3.3 J | 3.3 J | 4.2 J | 5.2 J | 4.6 J |
| **1,1-Dichloroethane** | 5 | 70 | ND | **15.5** | **31.4** | **6.2** | **6.9** | 0.5 J | ND | 4.7 J | **13.2** | 3.4 J | 1.2 J | 1.4 J | ND | ND | ND |
| **1,1- Dichloroethene** | 5 | --- | ND | 0.8 J | 0.2 J | 0.2 J | 0.4 J | ND | ND | ND | 0.4 J | 0.2 J | ND | ND | ND | ND | ND |
| **1,2- Dichlorobenzene** | 5 | --- | ND | ND | ND | ND | ND | 0.3 J | ND | ND | 1 J | ND | ND | ND | ND | ND | ND |
| **1,2-Dichloroethane** | 1 | 0.38 | ND | 0.3 J | 0.2 J | 0.2 J | ND | ND | ND | 0.4 J | 0.3 J | ND | ND | ND | ND | ND | ND |
| **1,2- Dichloropropane** | 1 | 0.51 | ND | ND | ND | 0.8 J | ND | ND | ND | ND | 0.6 J | ND | ND | ND | ND | ND | ND |
| **1,4-Dichlorobenzene** | 1 | 75 | ND | 0.5 J | 0.7 J | **2.6** | ND | **2.4** | ND | **4.1** | **1.5** | ND | ND | ND | ND | ND | ND |
| **1,1,1- Trichloroethane** | 1 | 200 | ND | ND | ND | ND | ND | ND | ND | ND | 0.2 J | ND | ND | ND | ND | ND | ND |
| **Dichlorodifluoromethane** | 5 | 1400 | ND | 1 J | 0.5 J | 0.2 J | 1.7 J | 0.2 J | ND | 0.2 J | **6.3** | ND | ND | ND | ND | ND | ND |
| **Cis-1,2-Dichlorethene** | 5 | 70 | ND | **11.9** | **12.6** | **5.0** | 2.2 J | 1.1 J | ND | 2.4 J | **35.1** | 1.4 J | 0.6 J | 0.6 J | ND | ND | ND |
| **Chlorobenzene** | 3 | 50 | ND | 1.6 J | 0.9 J | **4.3** | ND | **11.9** | ND | ND | 1.2 J | ND | ND | ND | ND | ND | ND |
| **Chloroethane** | 10 | 2800 | ND | ND | 2.4 J | ND | ND | 0.9 J | ND | ND | 1 J | ND | ND | ND | ND | ND | ND |
| **Chloromethane** | 1 | 2.6 | 0.3 J | 0.3 J | 0.3 J | 0.2 J | 0.2 J | ND | ND | 0.2 J | 0.2 J | 0.2 J | 0.2 J | 0.2 J | 0.2 J | 0.4 J | 0.2 J |
| **Heptachlor** | 0.05 | 0.0078 | ND | ND | ND | ND | ND | ND | ND | 0.041 J | ND | ND | ND | ND | ND | ND | ND |
| **Methylene chloride** | 1 | 5 | ND | ND | 0.3 J | 0.2 J | 0.6 J | ND | ND | **3.1** | **20.0** | 0.7 J | ND | ND | ND | ND | ND |
| **trans-1,2-Dichloroethene** | 5 | 100 | ND | 0.2 J | 0.2 J | 0.2 J | ND | ND | ND | ND | 0.4 J | ND | ND | ND | ND | ND | ND |
| **Tetrachloroethene** | 1 | 70 | ND | ND | ND | ND | **2.5** | ND | ND | **1.9** | **36.6** | **1.7** | ND | ND | ND | ND | ND |
| **Trichlorofluoromethane** | 1 | 2100 | ND | ND | ND | ND | ND | ND | ND | ND | **1.3** | 0.3 J | ND | ND | ND | ND | ND |
| **Trichloroethene** | 1 | 2.8 | ND | **4.0** | **3.5** | **1.0** | 2.1 | ND | ND | **1.3** | **20.2** | **1.8** | 0.3 J | ND | ND | ND | ND |
| **Toluene** | 1 | 1000 | ND | ND | ND | 0.2 J | ND | ND | ND | ND | ND | ND | ND | ND | 0.2 J | ND | ND |
| **Vinyl Chloride** | 1 | 0.015 | ND | **8.0** | **5.5** | **3.9** | ND | **1.1** | ND | ND | 0.8 J | ND | ND | 0.7 J | ND | ND | ND |
| **Xylenes** | 5 | 530 | ND | ND | ND | ND | ND | ND | ND | 0.5 J | 1.8 J | 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 |
| J | - | Detected constituents below the SWSL limit. |
| | * | All results in ug/L |

**Table 5**
**Halifax County Landfill**
**Statistical Analysis Summary**
**8/19/2008**

| Monitoring Well | Parameters | Detected level | Detection Limit | Test Units | %ND | Test | Statistically Significant? | 2L/MCL statistical analysis | Method for MCL analysis |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| MW-16a | 1,1-Dichloroethane | 13.2 | <5 | ug/l | 54 | NPTL | Y | N | MCL-PTI |
| MW-2a | 1,1-Dichloroethane | 15.5 | <5 | ug/l | 54 | NPTL | Y | N | MCL-PTI |
| MW-2ad | 1,1-Dichloroethane | 31.4 | <5 | ug/l | 54 | NPTL | Y | N | MCL-PTI |
| MW-3a | 1,1-Dichloroethane | 6.2 | <5 | ug/l | 54 | NPTL | Y | N | MCL-PTI |
| MW-3d | 1,1-Dichloroethane | 6.9 | <5 | ug/l | 54 | NPTL | Y | N | MCL-PTI |
| MW-15r | 1,4-Dichlorobenzene | 4.1 | <1 | ug/l | 86 | NPPL | N | --- | --- |
| MW-16a | 1,4-Dichlorobenzene | 1.5 | <1 | ug/l | 86 | NPPL | N | --- | --- |
| MW-3a | 1,4-Dichlorobenzene | 2.6 | <1 | ug/l | 86 | NPPL | N | --- | --- |
| MW-6d | 1,4-Dichlorobenzene | 2.4 | <1 | ug/l | 86 | NPPL | N | --- | --- |
| MW-2a | Barium | 0.129 | <0.100 | mg/l | 76 | NPPL | N | --- | --- |
| MW-2ad | Barium | 0.115 | <0.100 | mg/l | 76 | NPPL | N | --- | --- |
| MW-6d | Barium | 0.576 | <0.100 | mg/l | 76 | NPPL | Y | Y | MCL-PTI |
| MW-16a | Benzene | 2.7 | <1 | ug/l | 87 | NPPL | N | --- | --- |
| MW-2ad | Benzene | 1.2 | <1 | ug/l | 87 | NPPL | N | --- | --- |
| MW-3a | Benzene | 2.1 | <1 | ug/l | 87 | NPPL | N | --- | --- |
| MW-6d | Benzene | 2.2 | <1 | ug/l | 87 | NPPL | N | --- | --- |
| MW-3a | Chlorobenzene | 4.3 | <3 | ug/l | 67.9 | NPPL | N | --- | --- |
| MW-6d | Chlorobenzene | 11.9 | <3 | ug/l | 67.9 | NPPL | Y | N | MCL-PTI |
| MW-16a | Cis-1,2-Dichloroethene | 35.1 | <5 | ug/l | 57 | NPPL | Y | N | MCL-PTI |
| MW-2a | Cis-1,2-Dichloroethene | 11.9 | <5 | ug/l | 57 | NPPL | Y | N | MCL-PTI |
| MW-2ad | Cis-1,2-Dichloroethene | 12.6 | <5 | ug/l | 57 | NPPL | Y | N | MCL-PTI |
| MW-3a | Cis-1,2-Dichloroethene | 5 | <5 | ug/l | 57 | NPPL | N | --- | --- |
| MW-16a | Dichlorodifluoromethane | 6.3 | <5 | ug/l | 71 | NPTL | Y | N | MCL-PTI |
| MW-15r | Mercury | 0.00074 | <0.0002 | mg/l | 75.5 | NPTL | Y | Y | MCL-PTI |
| MW-16a | Mercury | 0.00041 | <0.0002 | mg/l | 75.5 | NPTL | N | --- | --- |
| MW-15r | Methylene Chloride | 3.1 | <1 | ug/l | 74.4 | NPPL | N | --- | --- |
| MW-16a | Methylene Chloride | 20 | <1 | ug/l | 74.4 | NPPL | Y | Y | MCL-PTI |
| MW-15r | Tetrachloroethene | 1.9 | <1 | ug/l | 73.58 | NPPL | N | --- | --- |
| MW-16a | Tetrachloroethene | 36.6 | <1 | ug/l | 73.58 | NPPL | Y | Y | MCL-PTI |
| MW-17 | Tetrachloroethene | 1.7 | <1 | ug/l | 73.58 | NPPL | N | --- | --- |
| MW-3d | Tetrachloroethene | 2.5 | <1 | ug/l | 73.58 | NPPL | N | --- | --- |

**Table 5**
**Halifax County Landfill**
**Statistical Analysis Summary**
**8/19/2008**

| Monitoring Well | Parameters | Detected level | Detection Limit | Test Units | %ND | Test | Statistically Significant? | 2L/MCL statistical analysis | Method for MCL analysis |
|---|---|---|---|---|---|---|---|---|---|
| MW-15r | Trichloroethene | 1.3 | <1 | ug/l | 67.58 | NPTL | N | --- | --- |
| MW-16a | Trichloroethene | 20.2 | <1 | ug/l | 67.58 | NPTL | Y | Y | MCL-PTI |
| MW-17 | Trichloroethene | 1.8 | <1 | ug/l | 67.58 | NPTL | N | --- | --- |
| MW-2a | Trichloroethene | 4 | <1 | ug/l | 67.58 | NPTL | N | --- | --- |
| MW-2ad | Trichloroethene | 3.5 | <1 | ug/l | 67.58 | NPTL | N | --- | --- |
| MW-3a | Trichloroethene | 1 | <1 | ug/l | 67.58 | NPTL | N | --- | --- |
| MW-3d | Trichloroethene | 2.1 | <1 | ug/l | 67.58 | NPTL | N | --- | --- |
| MW-16a | Trichlorofluoromethane | 1.3 | <1 | ug/l | 95 | PPL with 1/2 DL | N | --- | --- |
| MW-2a | Vinyl Chloride | 8 | <1 | ug/l | 85 | NPPL | N | --- | --- |
| MW-2ad | Vinyl Chloride | 5.5 | <1 | ug/l | 85 | NPPL | N | --- | --- |
| MW-3a | Vinyl Chloride | 3.9 | <1 | ug/l | 85 | NPPL | N | --- | --- |
| MW-6d | Vinyl Chloride | 1.1 | <1 | ug/l | 85 | 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

# Appendix A

## Laboratory Analytical Report

Environment 1, Incorporated

REC'D SEP 30 2008

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

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

DATE COLLECTED: 08/19/08
DATE REPORTED : 09/26/08

REVIEWED BY:

| PARAMETERS | MDL | SWSL | Well #1 | Well #2A | Well #3D | Well #7D | SW-1 | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PH (field measurement), Units | | | 5.5 | 6.1 | 6.1 | 6.2 | 6.6 | 08/19/08 | RJH | SM4500HB |
| Antimony, ug/l | 0.08 | 6.0 | 0.3 J | --- U | --- U | --- U | --- U | 08/25/08 | LKFJ | EPA200.8 |
| Arsenic, ug/l | 0.07 | 10.0 | 1.2 J | 2.2 J | 0.2 J | 0.3 J | 2.1 J | 08/25/08 | LFJ | EPA200.8 |
| Barium, ug/l | 0.11 | 100.0 | 81.9 J | 129 | 61.8 J | 35.2 J | 94 J | 08/25/08 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.06 | 1.0 | 1.4 | 0.4 J | 0.2 J | 0.1 J | 0.5 J | 08/25/08 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.04 | 1.0 | 0.3 J | 0.1 J | 0.1 J | 0.1 J | 0.5 J | 08/25/08 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.03 | 10.0 | 2.8 J | 9.1 J | 0.1 J | 0.1 J | 2.0 J | 08/25/08 | LFJ | EPA200.8 |
| Copper, ug/l | 0.05 | 10.0 | 2.8 J | 1.0 J | --- U | 0.7 J | 5.9 J | 08/25/08 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.11 | 10.0 | 1.7 J | 0.3 J | --- U | --- U | 4.6 J | 08/25/08 | LFJ | EPA200.8 |
| Lead, ug/l | 0.04 | 10.0 | 6.6 J | 0.7 J | 0.2 J | 0.7 J | 23 | 08/25/08 | LFJ | EPA200.8 |
| Mercury, ug/l | 0.01 | 0.20 | | 0.11 J | 0.18 J | 0.03 J | | 08/25/08 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.06 | 50.0 | 1.7 J | 1.0 J | 0.5 J | 0.2 J | 2.3 J | 08/25/08 | LFJ | EPA200.8 |
| Selenium, ug/l | 0.14 | 10.0 | 0.6 J | 0.2 J | 0.2 J | --- U | 0.3 J | 08/25/08 | LFJ | EPA200.8 |
| Silver, ug/l | 0.04 | 10.0 | 0.1 J | 0.2 J | 0.2 J | 0.1 J | 0.1 J | 08/22/08 | LFJ | EPA200.8 |
| Thallium, ug/l | 0.04 | 5.0 | 0.2 J | --- U | 0.1 J | 0.1 J | 0.1 J | 08/25/08 | LFJ | EPA200.8 |
| Tin, ug/l | 0.13 | 100.0 | | 2.9 J | 0.7 J | 4.2 J | | 08/25/08 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.07 | 25.0 | 6.9 J | 2.8 J | 0.9 J | 0.8 J | 15.9 J | 08/25/08 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.04 | 10.0 | 21 | 3.0 J | 1.5 J | 3.1 J | 71 | 08/25/08 | LFJ | EPA200.8 |
| Conductivity (at 25c), uMhos | 1.0 | 1.0 | 31 | 257 | 172 | 42 | 97 | 08/19/08 | RJH | SM2510B |
| Temperature, °C | | | 16 | 21 | 19 | 17 | 21 | 08/19/08 | RJH | SM2550B |
| Static Water Level, feet | | | 31.85 | 5.66 | 9.00 | 4.14 | | 08/19/08 | RJH | |
| Well Depth, feet | | | 42.36 | 17.21 | 52.07 | 39.57 | | 08/19/08 | 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

ID#: 6015

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

DATE COLLECTED: 08/19/08
DATE REPORTED : 09/26/08

REVIEWED BY:

| PARAMETERS | MDL | SWSL | SW-2 | SW-3 | Well #2AD | Well #6D | Well #15R | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PH (field measurement), Units | | | 6.3 | 6.2 | 6.5 | 6.0 | 5.0 | 08/19/08 | RJH | SM4500HB |
| Antimony, ug/l | 0.08 | 6.0 | 0.2 J | --- U | --- U | --- U | 0.1 J | 08/25/08 | LKFJ | EPA200.8 |
| Arsenic, ug/l | 0.07 | 10.0 | 1.6 J | 2.7 J | 1.0 J | 0.4 J | 0.2 J | 08/25/08 | LFJ | EPA200.8 |
| Barium, ug/l | 0.11 | 100.0 | 60.5 J | 38 J | 115 | 576 | 82.1 J | 08/25/08 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.06 | 1.0 | --- U | 2.2 | 0.1 J | 0.5 J | 0.2 J | 08/25/08 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.04 | 1.0 | 0.1 J | 1.2 | 0.5 J | 0.6 J | 0.2 J | 08/25/08 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.03 | 10.0 | 0.6 J | 2.4 J | 4.2 J | 3.7 J | 0.5 J | 08/25/08 | LFJ | EPA200.8 |
| Copper, ug/l | 0.05 | 10.0 | 0.1 J | 1.0 J | 0.7 J | 0.6 J | 1.1 J | 08/25/08 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.11 | 10.0 | --- U | 0.4 J | --- U | --- U | --- U | 08/25/08 | LFJ | EPA200.8 |
| Lead, ug/l | 0.04 | 10.0 | 0.2 J | 0.8 J | 0.7 J | 0.6 J | 0.3 J | 08/25/08 | LFJ | EPA200.8 |
| Mercury, ug/l | 0.01 | 0.20 | | | 0.13 J | 0.11 J | 0.74 | 08/25/08 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.06 | 50.0 | 1.0 J | 2.8 J | 1.7 J | 2.2 J | 0.4 J | 08/25/08 | LFJ | EPA200.8 |
| Selenium, ug/l | 0.14 | 10.0 | 2.2 J | 7.0 J | 0.2 J | 0.7 J | 0.2 J | 08/25/08 | LFJ | EPA200.8 |
| Silver, ug/l | 0.04 | 10.0 | 0.1 J | 0.2 J | --- U | --- U | --- U | 08/22/08 | LFJ | EPA200.8 |
| Thallium, ug/l | 0.04 | 5.0 | --- U | --- U | 0.1 J | --- U | 0.2 J | 08/25/08 | LFJ | EPA200.8 |
| Tin, ug/l | 0.13 | 100.0 | | | 0.9 J | 0.5 J | 2.6 J | 08/25/08 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.07 | 25.0 | 0.7 J | 11.7 J | 1.8 J | 1.4 J | 0.4 J | 08/25/08 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.04 | 10.0 | 2.0 J | 32 | 5.7 J | 9.8 J | 3.0 J | 08/25/08 | LFJ | EPA200.8 |
| Conductivity (at 25c), uMhos | 1.0 | 1.0 | 332 | 749 | 551 | 549 | 50 | 08/19/08 | RJH | SM2510B |
| Temperature, °C | | | 22 | 20 | 20 | 16 | 17 | 08/19/08 | RJH | SM2550B |
| Static Water Level, feet | | | | | 3.19 | 12.44 | 27.35 | 08/19/08 | RJH | |
| Well Depth, feet | | | | | 41.75 | 43.55 | 46.41 | 08/19/08 | 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

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

Drinking Water ID: 37715
Wastewater ID: 10

ID#: 6015

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

DATE COLLECTED: 08/19/08
DATE REPORTED : 09/26/08

REVIEWED BY:

| PARAMETERS | MDL | SWSL | Well #3AD | Well #16A | BP-3 | BP-9 | Trip Blank | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PH (field measurement), Units | | | 6.2 | 5.8 | | | | 08/19/08 | RJH | SM4500HB |
| Antimony, ug/l | 0.08 | 6.0 | --- U | --- U | | | | 08/25/08 | LKFJ | EPA200.8 |
| Arsenic, ug/l | 0.07 | 10.0 | 1.7 J | 0.2 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Barium, ug/l | 0.11 | 100.0 | 67.2 J | 87.1 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.06 | 1.0 | 0.1 J | 0.4 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.04 | 1.0 | 0.2 J | 0.2 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.03 | 10.0 | 4.1 J | 0.2 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Copper, ug/l | 0.05 | 10.0 | 0.8 J | --- U | | | | 08/25/08 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.11 | 10.0 | --- U | --- U | | | | 08/25/08 | LFJ | EPA200.8 |
| Lead, ug/l | 0.04 | 10.0 | 0.8 J | 0.2 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Mercury, ug/l | 0.01 | 0.20 | 0.08 J | 0.41 | | | | 08/25/08 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.06 | 50.0 | 1.0 J | 0.5 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Selenium, ug/l | 0.14 | 10.0 | 0.9 J | --- U | | | | 08/25/08 | LFJ | EPA200.8 |
| Silver, ug/l | 0.04 | 10.0 | --- U | --- U | | | | 08/22/08 | LFJ | EPA200.8 |
| Thallium, ug/l | 0.04 | 5.0 | --- U | --- U | | | | 08/25/08 | LFJ | EPA200.8 |
| Tin, ug/l | 0.13 | 100.0 | 0.6 J | 0.3 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.07 | 25.0 | 1.6 J | 0.6 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.04 | 10.0 | 5.2 J | 6.6 J | | | | 08/25/08 | LFJ | EPA200.8 |
| Conductivity (at 25c), uMhos | 1.0 | 1.0 | 714 | 148 | | | | 08/19/08 | RJH | SM2510B |
| Temperature, °C | | | 18 | 17 | | | | 08/19/08 | RJH | SM2550B |
| Static Water Level, feet | | | 9.71 | 6.17 | 26.23 | 29.64 | | 08/19/08 | RJH | |
| Well Depth, feet | | | 22.89 | 22.73 | | | | 08/19/08 | 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)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 08/19/08
DATE EXTRACTED: 08/21/08
DATE ANALYZED: 09/04/08
DATE REPORTED: 09/26/08



REVIEWED BY:

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

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 08/19/08
DATE EXTRACTED: 08/21/08
DATE ANALYZED: 09/04/08
DATE REPORTED: 09/26/08



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 | --- U | --- U | --- U |
| 3. Beta-BHC | 0.031 | 0.05 | --- U | 0.041 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 | 0.041 J | --- U | --- U |
| 17. Hepthchlor 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 |

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

REVIEWED BY:

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 08/19/08
DATE EXTRACTED: 08/22/08
DATE ANALYZED: 08/25/08
DATE REPORTED: 09/26/08



## 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

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

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ANALYST: CHS
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REVIEWED BY:

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

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
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CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 08/19/08
DATE ANALYZED: 09/02/08
DATE REPORTED: 09/26/08



REVIEWED BY:

## VOLATILE ORGANICS
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | Well #1 | SW-1 | SW-2 | SW-3 |
|---|---|---|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | 0.30 J | 0.20 J | 0.40 J | 0.20 J |
| 2. Vinyl Chloride | 0.34 | 1.0 | --- U | --- U | --- U | --- 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 | --- U | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U | --- U |
| 7. Acetone | 1.21 | 100.0 | 5.70 J | 6.10 J | 7.40 J | 6.30 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 | --- U | --- U | --- U | --- U |
| 11. trans-1,2-Dichloroethene | 0.13 | 5.0 | --- U | --- U | --- U | --- U |
| 12. 1,1-Dichloroethane | 0.16 | 5.0 | --- U | --- U | --- U | --- U |
| 13. Vinyl Acetate | 0.20 | 50.0 | --- U | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U | --- U |
| 15. 2-Butanone | 0.85 | 100.0 | 4.40 J | 4.20 J | 5.20 J | 4.60 J |
| 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 | --- U | --- U | --- U | --- U |
| 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 | --- U | 0.20 J | --- U | --- U |
| 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 | --- U | --- U | --- U | --- U |
| 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 |

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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)
MR. FRANK RALPH
P.O. BOX 70
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CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 08/19/08
DATE EXTRACTED: 08/25/08
DATE ANALYZED: 09/04/08
DATE REPORTED: 09/26/08



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 | 14.80 J | --- 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

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

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 08/19/08
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DATE REPORTED: 09/26/08



REVIEWED BY:

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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## 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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## SEMI-VOLATILE ORGANICS
## 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 | 14.30 J | --- 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

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

CLIENT ID: 6015

ANALYST: CHS
DATE COLLECTED: 08/19/08
DATE EXTRACTED: 08/25/08
DATE ANALYZED: 09/04/08
DATE REPORTED: 09/26/08



REVIEWED BY:

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 |

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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

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

CLIENT: HALIFAX CO. LANDFILL (CLOSED MSW)
MR. FRANK RALPH
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 | 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 |

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

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 08/19/08
DATE ANALYZED: 09/02/08
DATE REPORTED: 09/26/08



REVIEWED BY: _____

## LANDFILL APPENDIX II
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | Well #2A | Well #3D | Well #7D | Well #2AD | Well #6D |
|---|---|---|---|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | 0.30 J | 0.20 J | --- U | 0.30 J | --- U |
| 2. Vinyl Chloride | 0.34 | 1.0 | 8.00 | --- U | --- U | 5.50 | 1.10 |
| 3. Bromomethane | 0.26 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 4. Chloroethane | 0.29 | 10.0 | --- U | --- U | --- U | 2.40 J | 0.90 J |
| 5. Trichlorofluoromethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | 0.80 J | 0.40 J | --- U | 0.20 J | --- U |
| 7. Acetone | 1.21 | 100.0 | 5.40 J | 3.90 J | 5.10 J | 5.60 J | 4.70 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 | 0.60 J | --- U | 0.30 J | --- 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 | 15.50 | 6.90 | --- U | 31.40 | 0.50 J |
| 13. Vinyl Acetate | 0.20 | 50.0 | --- U | --- U | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | 11.90 | 2.20 J | --- U | 12.60 | 1.10 J |
| 15. 2-Butanone | 0.85 | 100.0 | 3.50 J | 2.70 J | 3.60 J | 4.00 J | 3.10 J |
| 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 | 0.60 J | 0.30 J | --- U | 1.20 | 2.20 |
| 21. 1,2-Dichloroethane | 0.12 | 1.0 | 0.30 J | --- U | --- U | 0.20 J | --- U |
| 22. Trichloroethene | 0.13 | 1.0 | 4.00 | 2.10 | --- U | 3.50 | --- U |
| 23. 1,2-Dichloropropane | 0.17 | 1.0 | --- U | --- U | --- U | --- 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 | --- U | --- U | --- U | --- U | --- U |
| 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 | --- U | 2.50 | --- U | --- 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 | 1.60 J | --- U | --- U | 0.90 J | 11.90 |
| 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 | 0.50 J | --- U | --- U | 0.70 J | 2.40 |
| 44. 1,2-Dichlorobenzene | 0.13 | 5.0 | --- U | --- U | --- U | --- U | 0.30 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 |
| 48. Acrolein | 5.46 | 50.0 | --- U | --- U | --- U | --- U | --- U |

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

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ANALYST: MAO
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REVIEWED BY: _____

LANDFILL APPENDIX II
EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | Well #2A | Well #3D | Well #7D | Well #2AD | Well #6D |
|---|---|---|---|---|---|---|---|
| 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 | 1.70 J | --- U | 0.50 J | 0.20 J |
| 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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## LANDFILL APPENDIX II
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | Well #15R | Well #3AD | Well #16A | Trip Blank | Equipment Blank |
|---|---|---|---|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | 0.20 J | 0.20 J | 0.20 J | --- U | --- U |
| 2. Vinyl Chloride | 0.34 | 1.0 | --- U | 3.90 | 0.80 J | --- U | --- U |
| 3. Bromomethane | 0.26 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 4. Chloroethane | 0.29 | 10.0 | --- U | --- U | 1.00 J | --- U | --- U |
| 5. Trichlorofluoromethane | 0.13 | 1.0 | --- U | --- U | 1.30 | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | --- U | 0.20 J | 0.40 J | --- U | --- U |
| 7. Acetone | 1.21 | 100.0 | 5.10 J | 6.60 J | 4.60 J | --- U | 1.50 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 | 3.10 | 0.20 J | 20.00 | --- U | 0.20 J |
| 11. trans-1,2-Dichloroethene | 0.13 | 5.0 | --- U | 0.20 J | 0.40 J | --- U | --- U |
| 12. 1,1-Dichloroethane | 0.16 | 5.0 | 4.70 J | 6.20 | 13.20 | --- U | --- U |
| 13. Vinyl Acetate | 0.20 | 50.0 | --- U | --- U | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | 2.40 J | 5.00 | 35.10 | --- U | --- U |
| 15. 2-Butanone | 0.85 | 100.0 | 3.40 J | 4.60 J | 2.80 J | --- 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 | 2.10 | 2.70 | --- U | --- U |
| 21. 1,2-Dichloroethane | 0.12 | 1.0 | 0.40 J | 0.20 J | 0.30 J | --- U | --- U |
| 22. Trichloroethene | 0.13 | 1.0 | 1.30 | 1.00 | 20.20 | --- U | --- U |
| 23. 1,2-Dichloropropane | 0.17 | 1.0 | --- U | 0.80 J | 0.60 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 | --- U | 0.20 J | --- U | --- U | --- U |
| 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 | 1.90 | --- U | 36.60 | --- 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 | 4.30 | 1.20 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 | 0.50 J | --- U | 1.80 J | --- 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 | 4.10 | 2.60 | 1.50 | --- U | --- U |
| 44. 1,2-Dichlorobenzene | 0.13 | 5.0 | --- U | --- U | 1.00 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 |
| 48. Acrolein | 5.46 | 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)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015

ANALYST: MAO
DATE COLLECTED: 08/19/08
DATE ANALYZED: 09/02/08
DATE REPORTED: 09/26/08



REVIEWED BY:

LANDFILL APPENDIX II
EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | Well #15R | Well #3AD | Well #16A | Trip Blank | Equipment Blank |
|---|---|---|---|---|---|---|---|
| 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 | 0.20 J | 0.20 J | 6.30 | --- 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 | 33.90 J | 10.60 J |

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: 33**

**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 | Metals | 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 | 8151A Landfill |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHLORINE NEUTRALIZED AT COLLECTION | | | | | | | | | | | | | | | | | | | | |
| pH CHECK (LAB) | | | | | | | 12 | | | | 12 | 12 | | | | 12 | 12 | 12 | 12 | |
| CONTAINER TYPE, P/G | | | | | | P | P | P | P | | G | G | G | G | G | G | G | G | G | G |
| CHEMICAL PRESERVATION | | | | | | A | A | A | A | | E | E | A | A | A | E | E | E | E | A |
| Well #1 | 08/19/08 | 0850 | | 16 | 4 | G | G | G | G | G | G | G | | | | | | | | |
| Well #2A | 08/19/08 | 0955 | | 21 | 8 | G | G | G | G | G | | | G | G | G | G | G | | | G |
| Well #3D | 08/19/08 | 1025 | | 19 | 8 | G | G | G | G | G | | | G | G | G | G | G | G | | G |
| Well #7D | 08/19/08 | 1120 | | 17 | 8 | G | G | G | G | G | | | G | G | G | G | G | | | G |
| SW-1 | 08/19/08 | 1030 | | 21 | 4 | G | G | G | G | | G | G | | | | | | | | |
| SW-2 | 08/19/08 | 1105 | | 22 | 4 | G | G | G | G | | G | G | | | | | | | | |
| SW-3 | 08/19/08 | 0940 | | 20 | 4 | G | G | G | G | | G | G | | | | | | | | |
| Well #2AD | 08/19/08 | 0950 | | 20 | 8 | G | G | G | G | G | | | G | G | G | G | G | | | G |
| Well #6D | 08/19/08 | 1130 | | 16 | 8 | G | G | G | G | G | | | G | G | G | G | G | | | G |
| Well #15R | 08/19/08 | 1055 | | 17 | 8 | G | G | G | G | G | | | G | G | G | G | G | | | G |
| Well #3AD | 08/19/08 | 1020 | | 18 | 10 | G | G | G | G | G | | | G | G | G | G | G | G | G | 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) Bob Hogue / Fat

SAMPLES RECEIVED IN LAB AT 10 °C

| RELINQUISHED BY (SIG.) (SAMPLER) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
|---|---|---|---|
| Bob Hogue | 08/19 2:22 | B Daffin | 8/19 2:22 |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |

COMMENTS:

Instructions 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.

FORM #5

№ 170641

Environmental, 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: 33

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 | Metals | 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 | 8151A Landfill |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHLORINE NEUTRALIZED AT COLLECTION | | | | | | | | | | | | | | | | | | | | |
| pH CHECK (LAB) | | | | | | | 12 | | | | | | | | | 12 | 12 | | | |
| CONTAINER TYPE, P/G | | | | | | P | P | P | P | | G | G | G | G | G | G | G | G | G | G |
| CHEMICAL PRESERVATION | | | | | | A | A | A | A | | E | E | A | A | A | E | E | E | E | A |
| Well #16A | 08/19/08 | 1045 | | 17 | 8 | C | C | C | C | C | | | C | C | C | C | C | | | C |
| BP-3 | 08/19/08 | | | | 1 | | | | | C | | | | | | | | | | |
| BP-9 | 08/19/08 | | | | 1 | | | | | C | | | | | | | | | | |
| Trip Blank | | | | | 2 | | | | | | | | | | | | | | | |
| Equipment Blank | 08/19/08 | | | | 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
☐ DWO/GW
☒ SOLID WASTE SECTION

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

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

SAMPLES RECEIVED IN LAB AT 1.0 °C

| RELINQUISHED BY (SIG.) (SAMPLER) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
|---|---|---|---|
| Bob H Pope | 08/19/08 2:22 | B [signature] | 8/19 2:22 |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |

COMMENTS:

Instructions 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.

FORM #5

№ 170640

Environment 1, Incorporated

REC'D SEP 30 2008

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 B

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

DATE COLLECTED: 08/19/08
DATE REPORTED : 09/16/08

REVIEWED BY:

| PARAMETERS | MDL | SWSL | Well #17 | Trip Blank | Well #18 Shallow | Well #18 Deep | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|---|
| PH (field measurement), Units | | | 6.0 | | 6.3 | 6.3 | 08/19/08 | RJH | SM4500HB |
| Antimony, ug/l | 0.08 | 6.0 | --- U | | --- U | --- U | 08/25/08 | LKFJ | EPA200.8 |
| Arsenic, ug/l | 0.07 | 10.0 | 0.5 J | | 2.0 J | 0.3 J | 08/25/08 | LFJ | EPA200.8 |
| Barium, ug/l | 0.11 | 100.0 | 60.4 J | | 91.2 J | 75.7 J | 08/25/08 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.06 | 1.0 | 0.5 J | | --- U | 0.1 J | 08/25/08 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.04 | 1.0 | 0.1 J | | 0.1 J | 0.1 J | 08/25/08 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.03 | 10.0 | 1.1 J | | 6.6 J | 0.3 J | 08/25/08 | LFJ | EPA200.8 |
| Copper, ug/l | 0.05 | 10.0 | 1.0 J | | 0.2 J | 0.3 J | 08/25/08 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.11 | 10.0 | 0.2 J | | --- U | --- U | 08/25/08 | LFJ | EPA200.8 |
| Lead, ug/l | 0.04 | 10.0 | 2.1 J | | 0.2 J | 0.5 J | 08/25/08 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.06 | 50.0 | 1.1 J | | 0.9 J | 0.8 J | 08/25/08 | LFJ | EPA200.8 |
| Selenium, ug/l | 0.14 | 10.0 | 0.3 J | | 0.2 J | --- U | 08/25/08 | LFJ | EPA200.8 |
| Silver, ug/l | 0.04 | 10.0 | 0.1 J | | --- U | --- U | 08/22/08 | LFJ | EPA200.8 |
| Thallium, ug/l | 0.04 | 5.0 | 0.1 J | | --- U | --- U | 08/25/08 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.07 | 25.0 | 3.4 J | | 1.0 J | 2.0 J | 08/25/08 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.04 | 10.0 | 6.5 J | | 2.3 J | 3.8 J | 08/25/08 | LFJ | EPA200.8 |
| Conductivity (at 25c), uMhos | 1.0 | 1.0 | 141 | | 213 | 176 | 08/19/08 | RJH | SM2510B |
| Temperature, °C | | | 22 | | 23 | 23 | 08/19/08 | RJH | SM2550B |
| Static Water Level, feet | | | 5.63 | | 4.73 | 4.46 | 08/19/08 | RJH | |
| Well Depth, feet | | | 27.59 | | 20.25 | 55.11 | 08/19/08 | 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)
MR. FRANK RALPH
P.O. BOX 70
HALIFAX, NC 27839

CLIENT ID: 6015 B

ANALYST: MAO
DATE COLLECTED: 08/19/08
DATE ANALYZED: 09/02/08
DATE REPORTED: 09/16/08



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 | 0.20 J | --- U | 0.20 J | 0.20 J |
| 2. Vinyl Chloride | 0.34 | 1.0 | --- U | --- U | 0.70 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 | 0.30 J | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | 0.20 J | --- U | --- U | --- U |
| 7. Acetone | 1.21 | 100.0 | 5.30 J | --- U | 5.40 J | 5.00 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 | 0.70 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 | 3.40 J | --- U | 1.40 J | 1.20 J |
| 13. Vinyl Acetate | 0.20 | 50.0 | --- U | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | 1.40 J | --- U | 0.60 J | 0.60 J |
| 15. 2-Butanone | 0.85 | 100.0 | 3.80 J | --- U | 3.30 J | 3.30 J |
| 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 | 1.80 | --- U | --- U | 0.30 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 | --- U | --- U | --- U | --- U |
| 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 | 1.70 | --- U | --- U | --- U |
| 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 B **Week: 33**

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

**(252) 583-1807**

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

| PARAMETERS | Field pH | Metals | Conductivity | Temperature | Field Parameter | EPA 8260B | 8260 Dup. 1 | 8260 Dup. 2 |
|---|---|---|---|---|---|---|---|---|
| CHLORINE NEUTRALIZED AT COLLECTION | | | | | | | | |
| pH CHECK (LAB) | | <2 | | | | <2 | <2 | <2 |
| CONTAINER TYPE, P/G | P | P | P | P | | G | G | G |
| CHEMICAL PRESERVATION | A | A | A | A | | E | E | E |

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 | Field pH | Metals | Conductivity | Temperature | Field Parameter | EPA 8260B | 8260 Dup. 1 | 8260 Dup. 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well #17 | 08/19/08 | 1010 | | 22 | 5 | C | C | C | C | C | C | C | C |
| Trip Blank | | | | | 2 | | | | | | | | |
| Well #18 Shallow | 08/19/08 | 1000 | | 23 | 4 | C | C | C | C | C | C | C | |
| Well #18 Deep | 08/19/08 | 1005 | | 21 | 4 | C | C | C | C | C | C | C | |

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 Hogge / FCA

SAMPLES RECEIVED IN LAB AT 1.0 °C

| RELINQUISHED BY (SIG.) (SAMPLER) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
|---|---|---|---|
| Bob Hogge 08 | 19 08 2:22 | B | 8/14 2:22 |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |

COMMENTS:

Instructions for completing this form are on the reverse side.

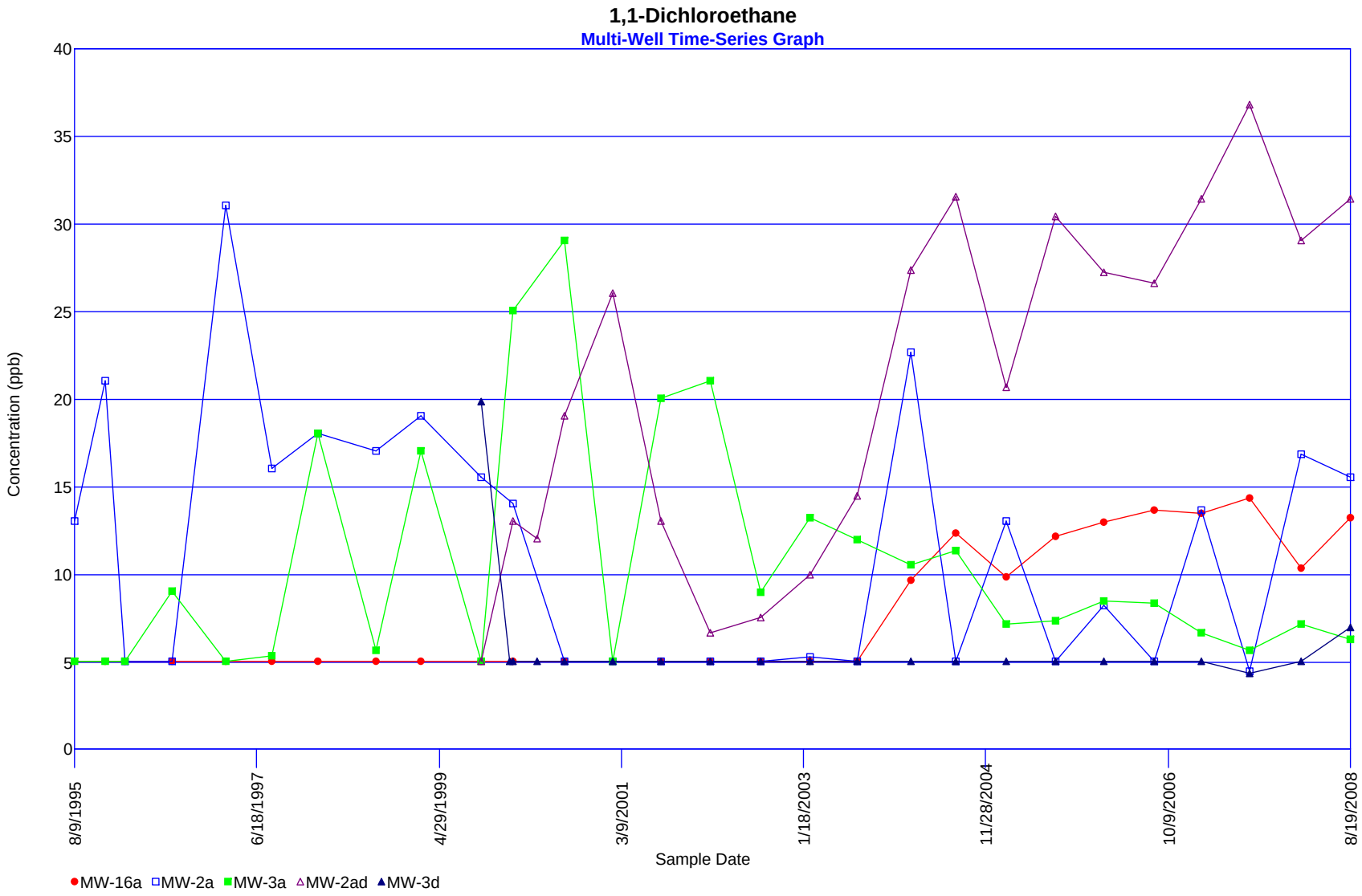
Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

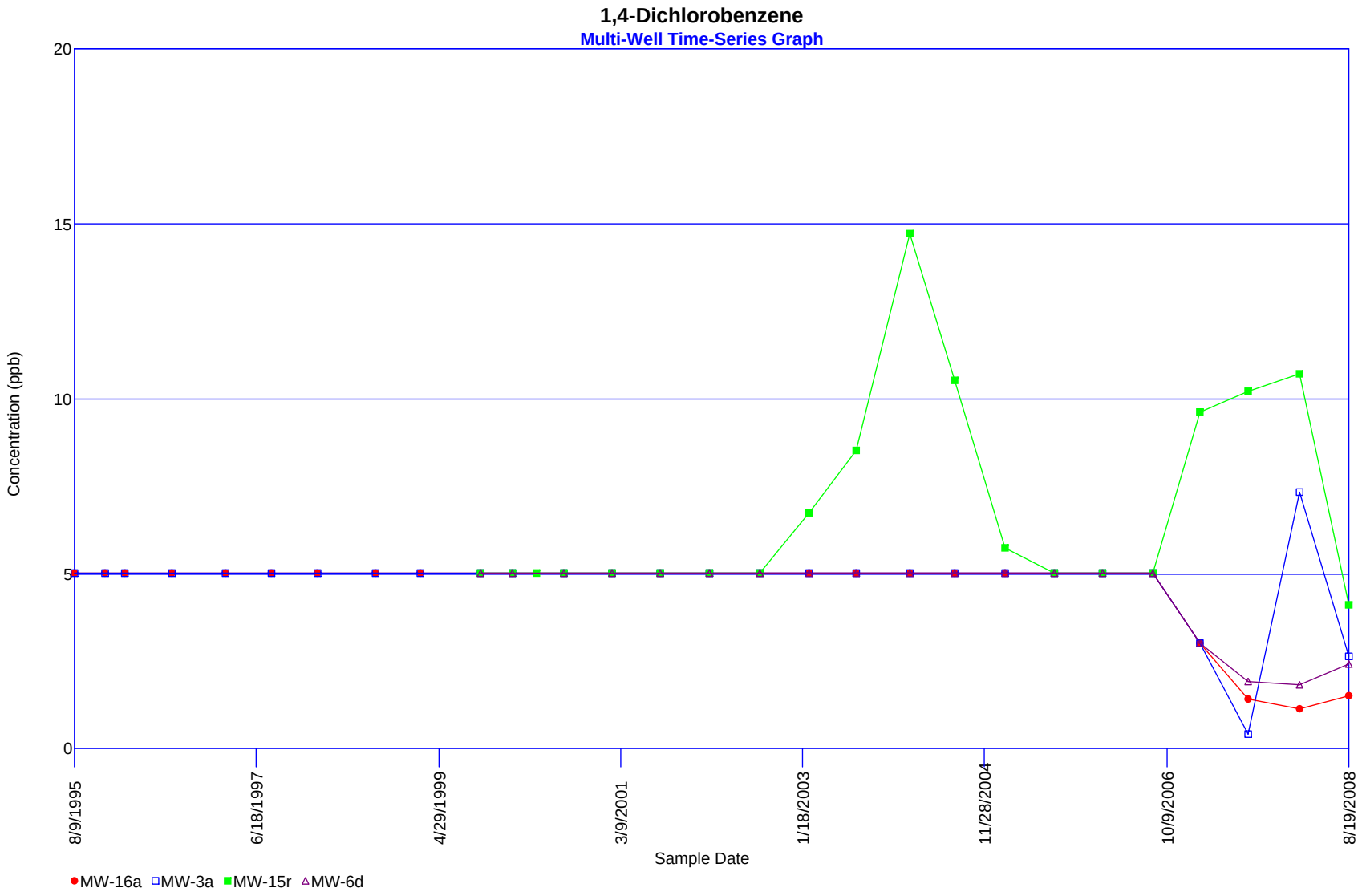
FORM #5

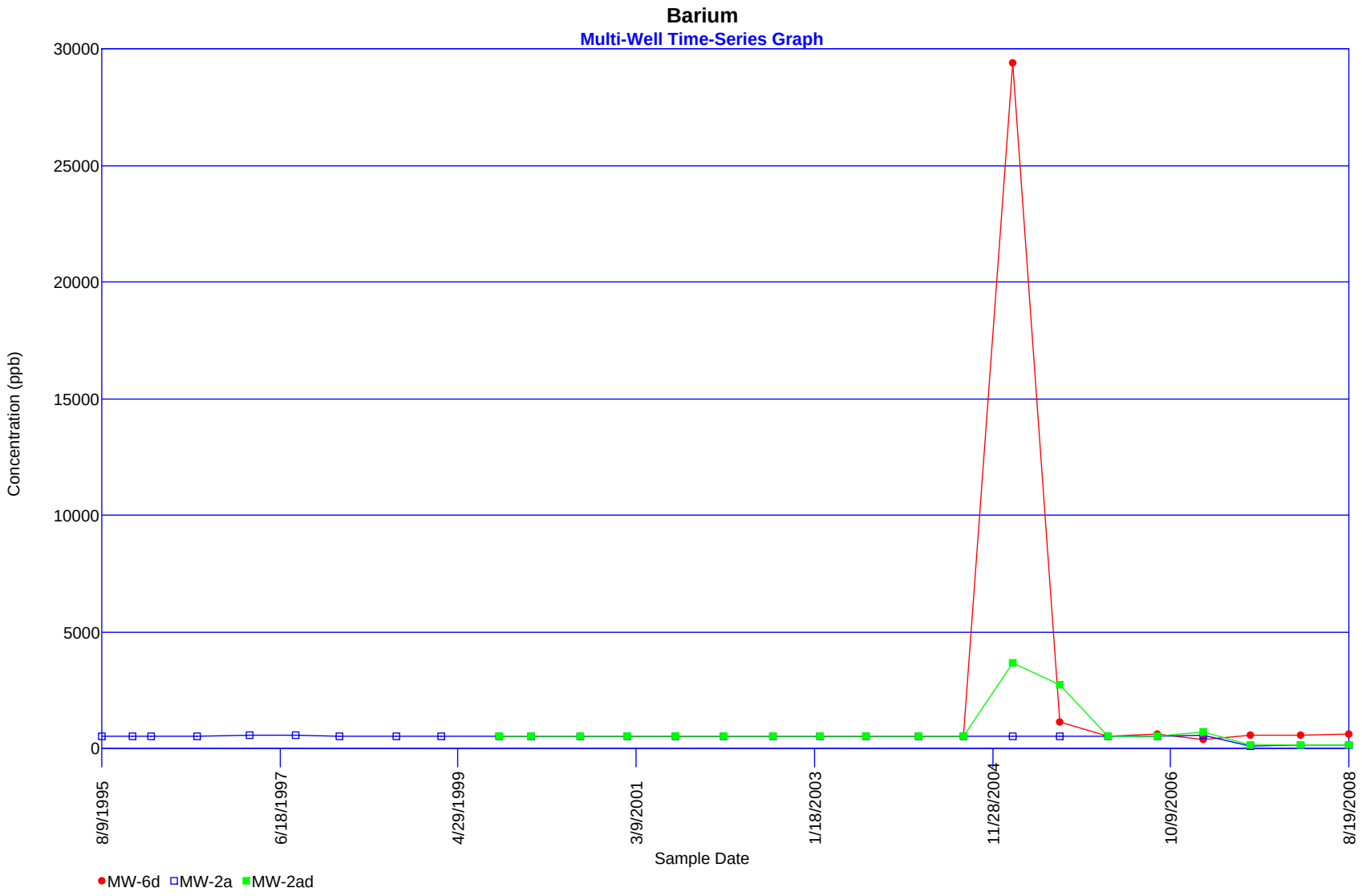
№ 170639

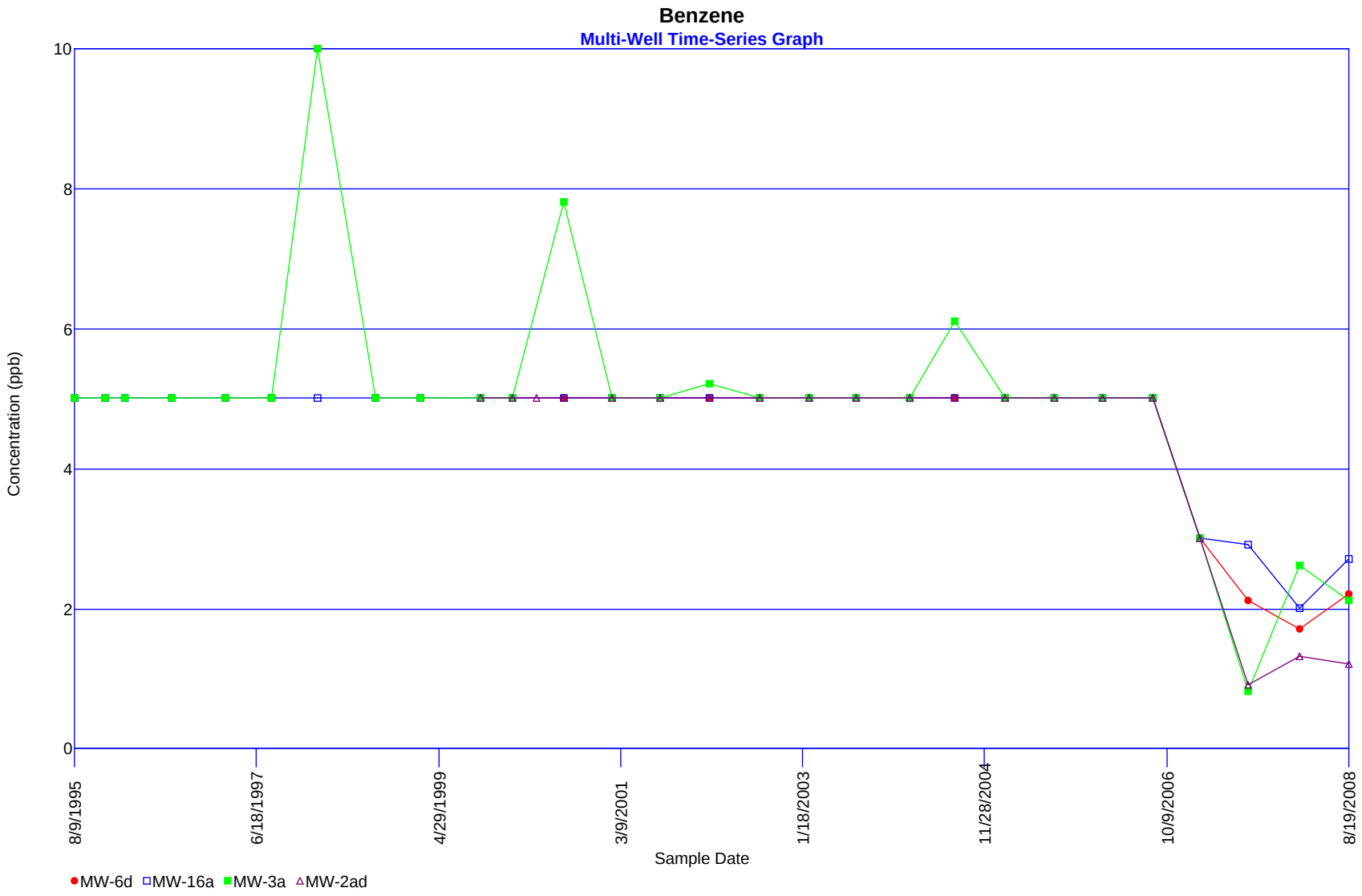
# Appendix B

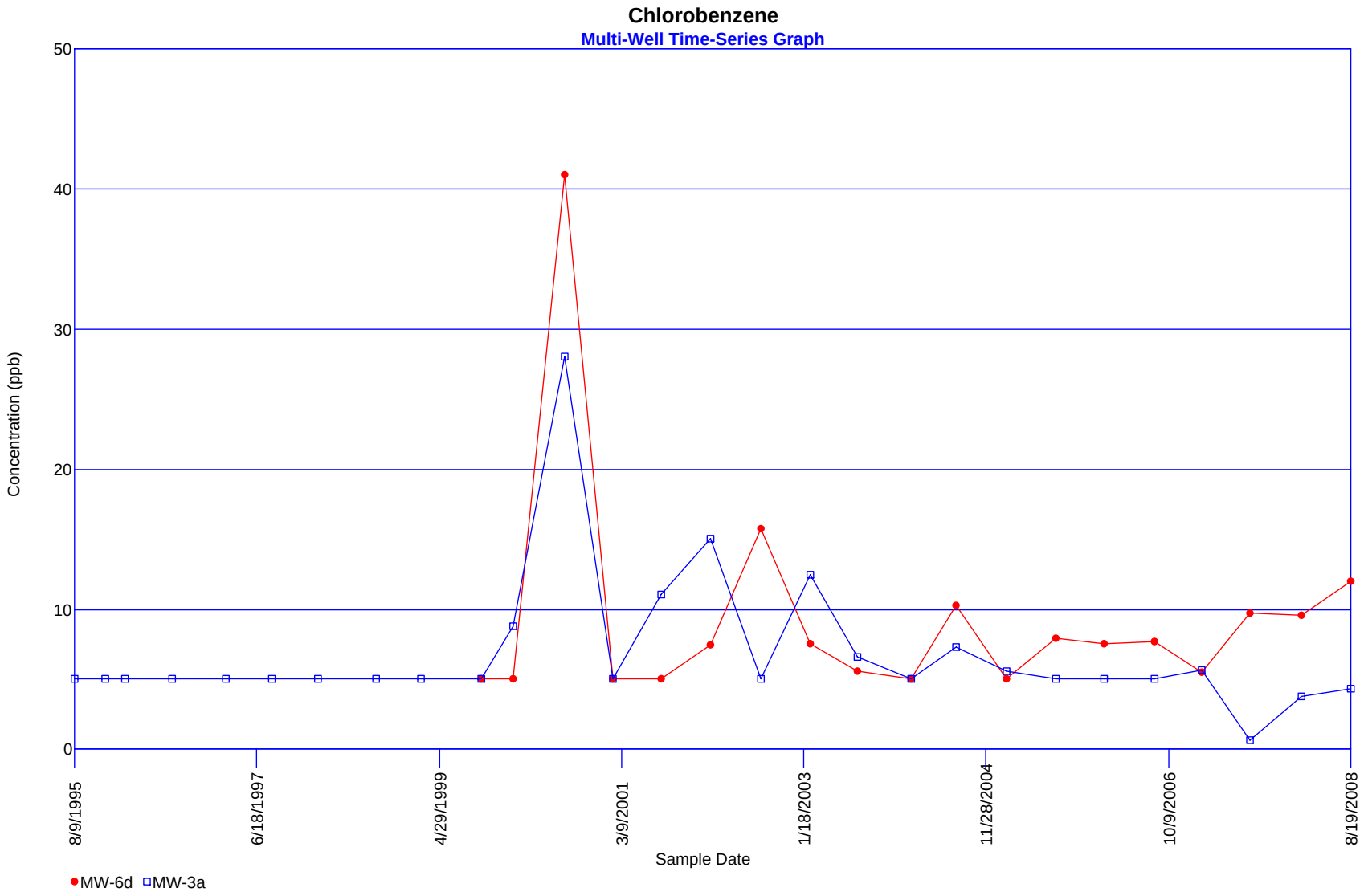
## Time vs. Concentration Graphs

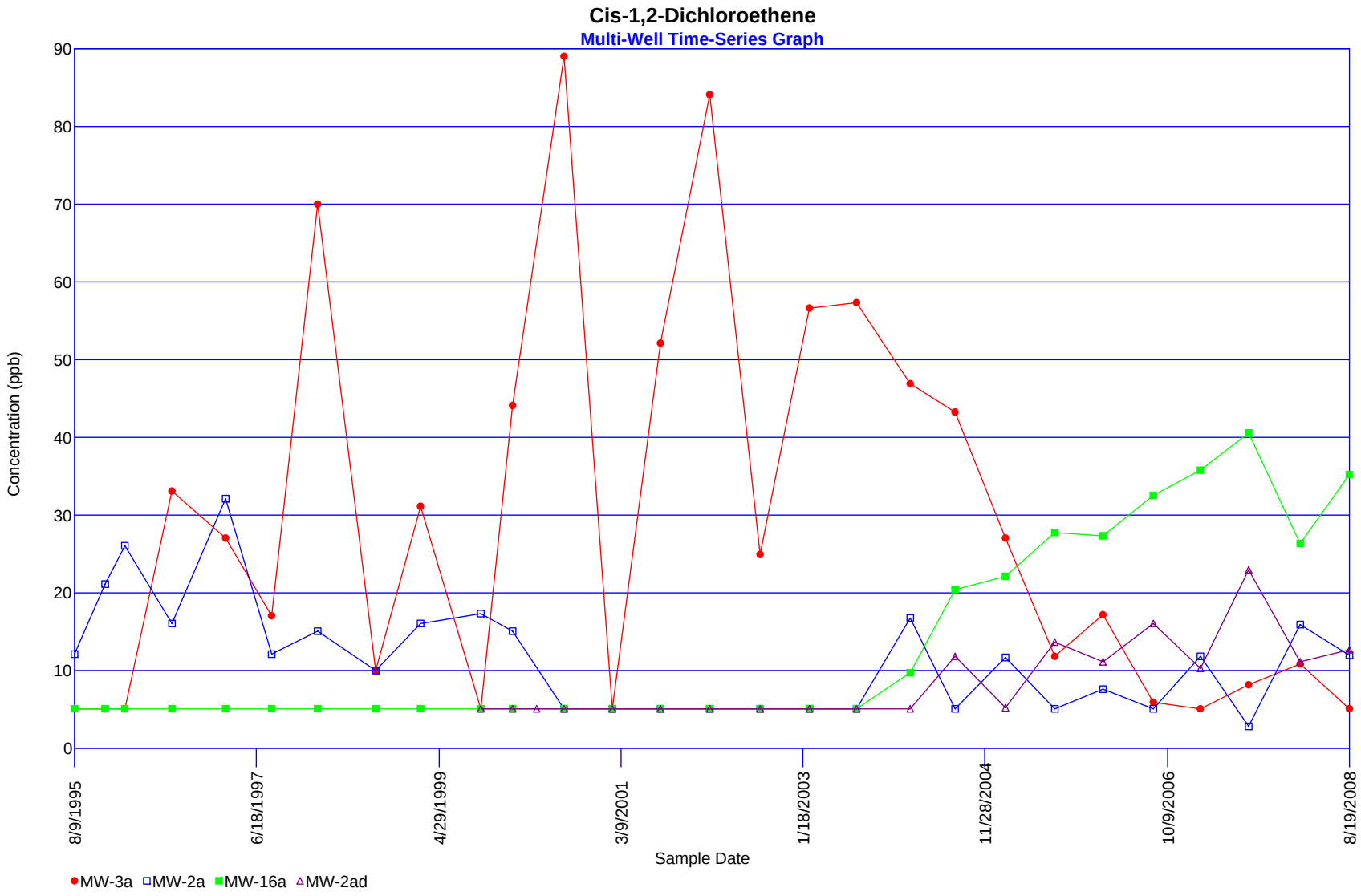

1,1-Dichloroethane
Multi-Well Time-Series Graph
Concentration (ppb)
40
35
30
25
20
15
10
5
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-16a
MW-2a
MW-3a
MW-2ad
MW-3d

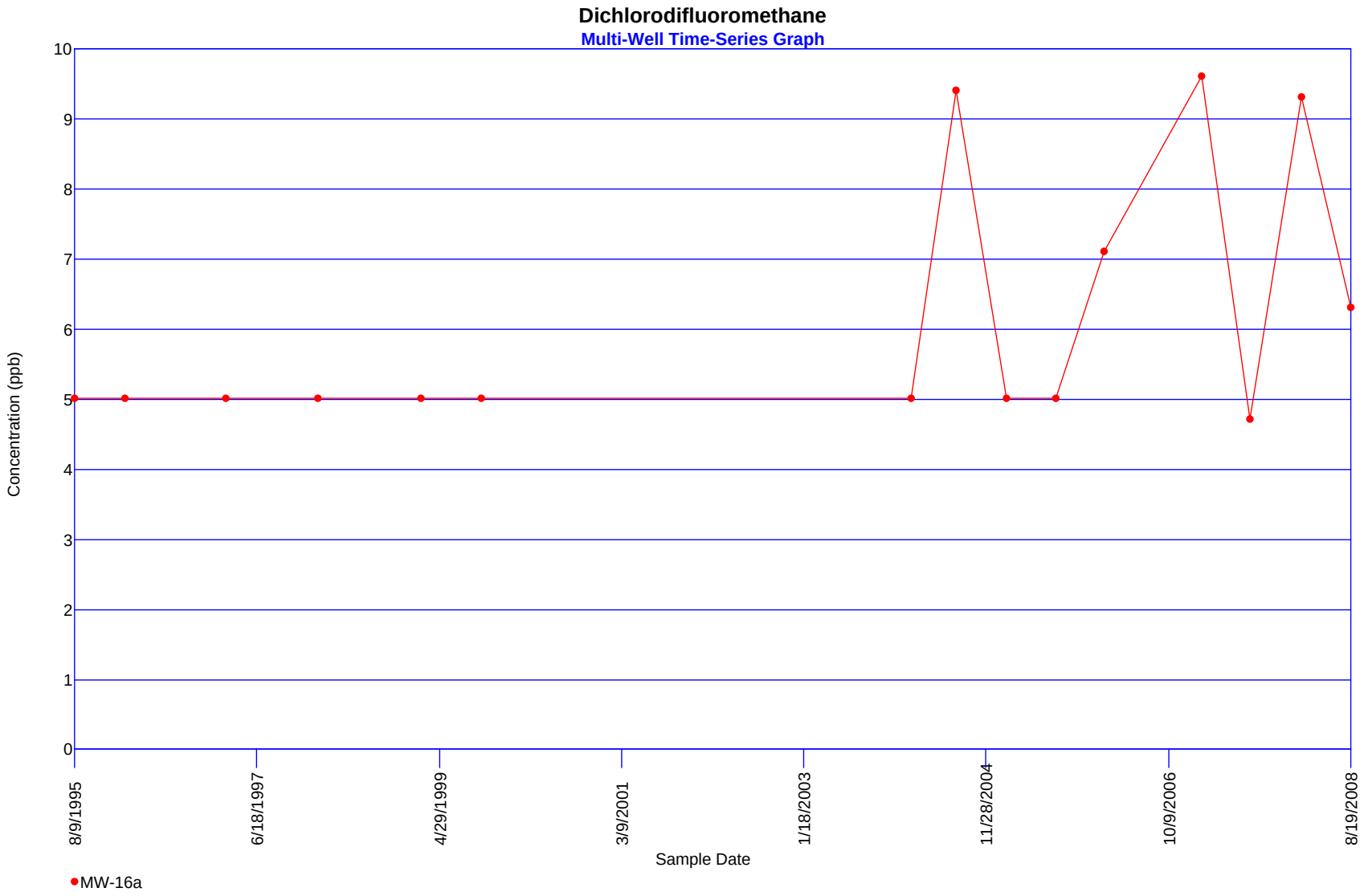

1,4-Dichlorobenzene
Multi-Well Time-Series Graph
Concentration (ppb)
20
15
10
5
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-16a
MW-3a
MW-15r
MW-6d

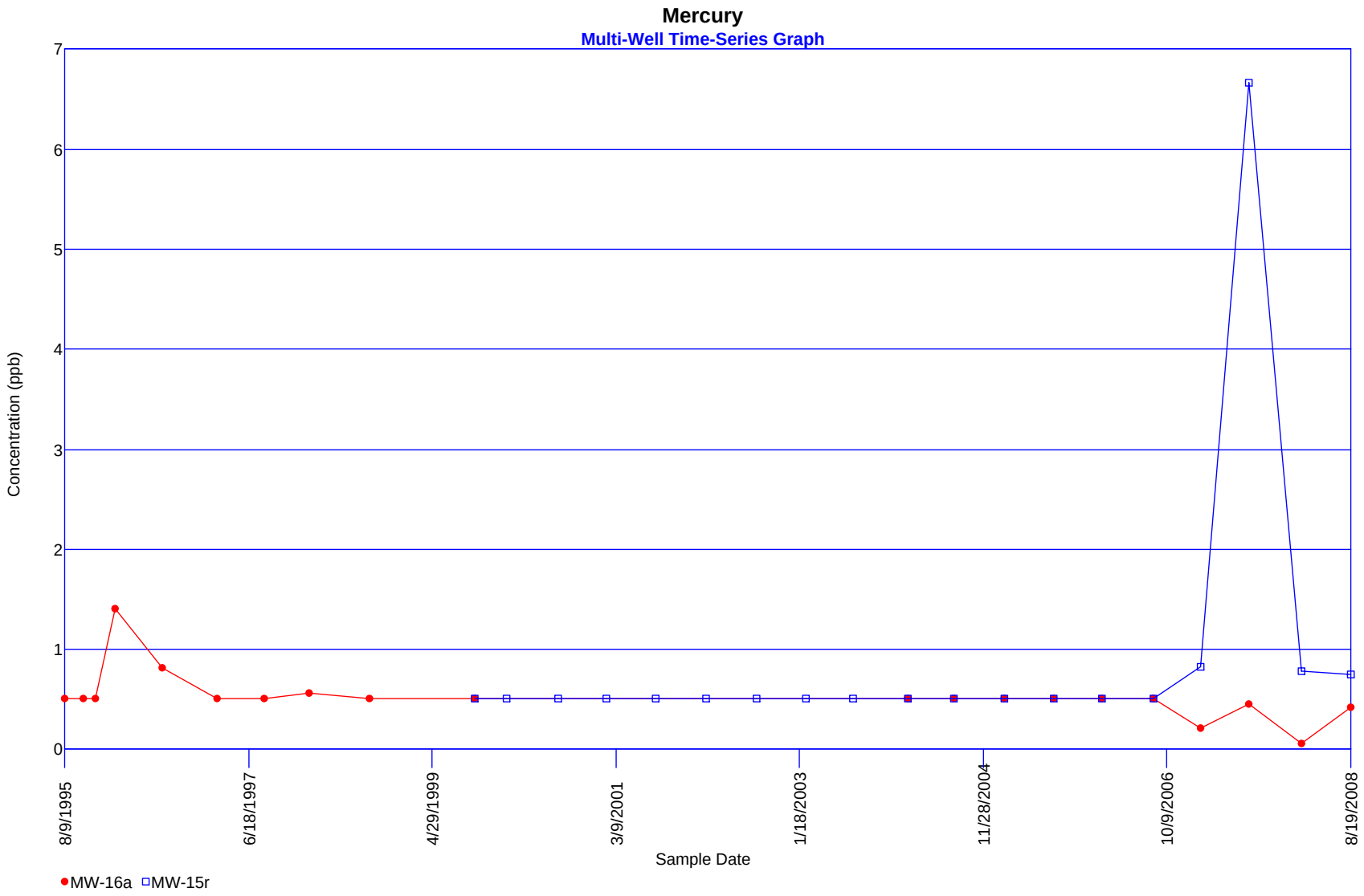

Barium
Multi-Well Time-Series Graph
30000
25000
20000
15000
10000
5000
0
Concentration (ppb)
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-6d
MW-2a
MW-2ad

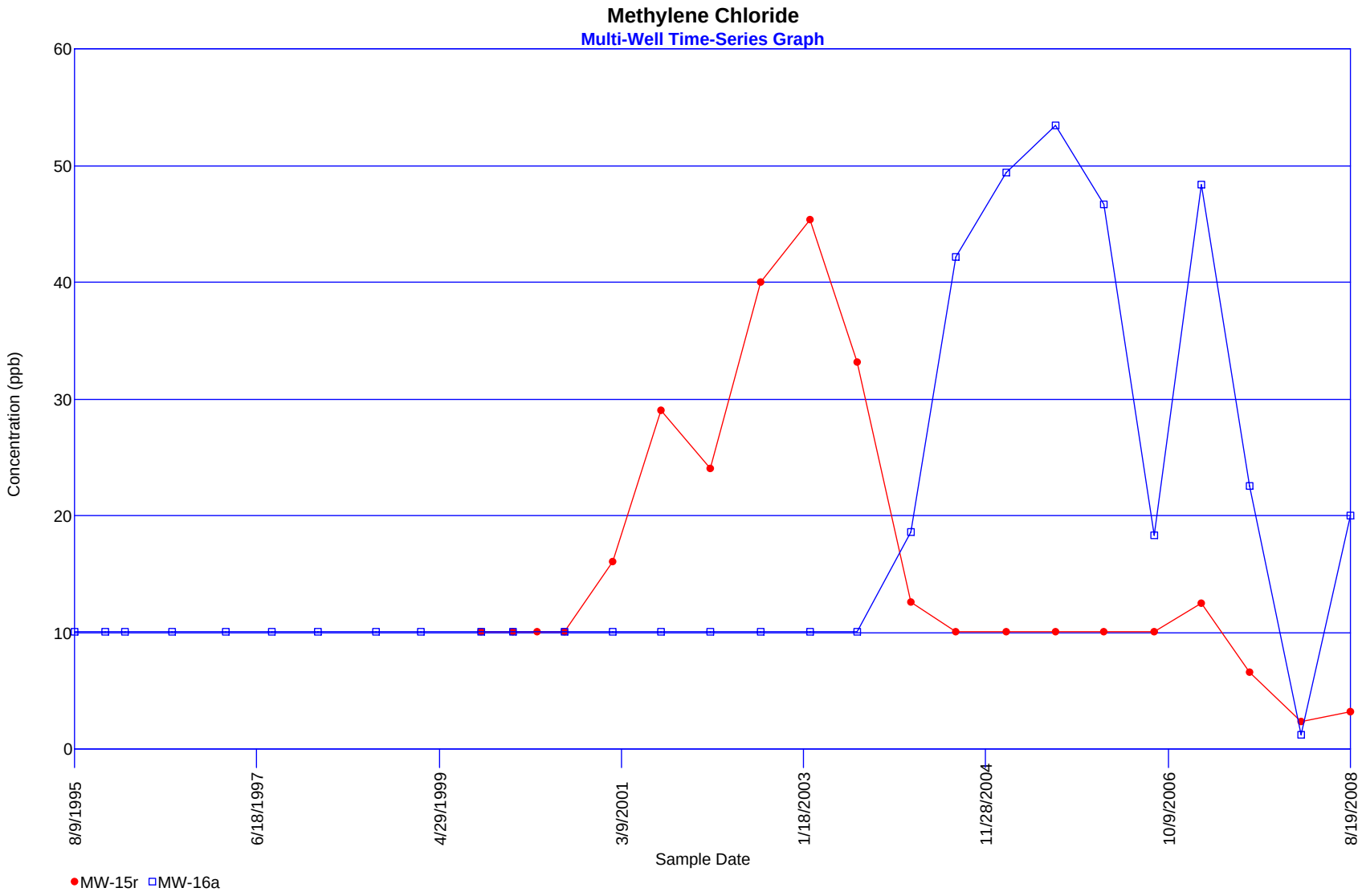

Benzene
Multi-Well Time-Series Graph
Concentration (ppb)
10
8
6
4
2
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-6d
MW-16a
MW-3a
MW-2ad

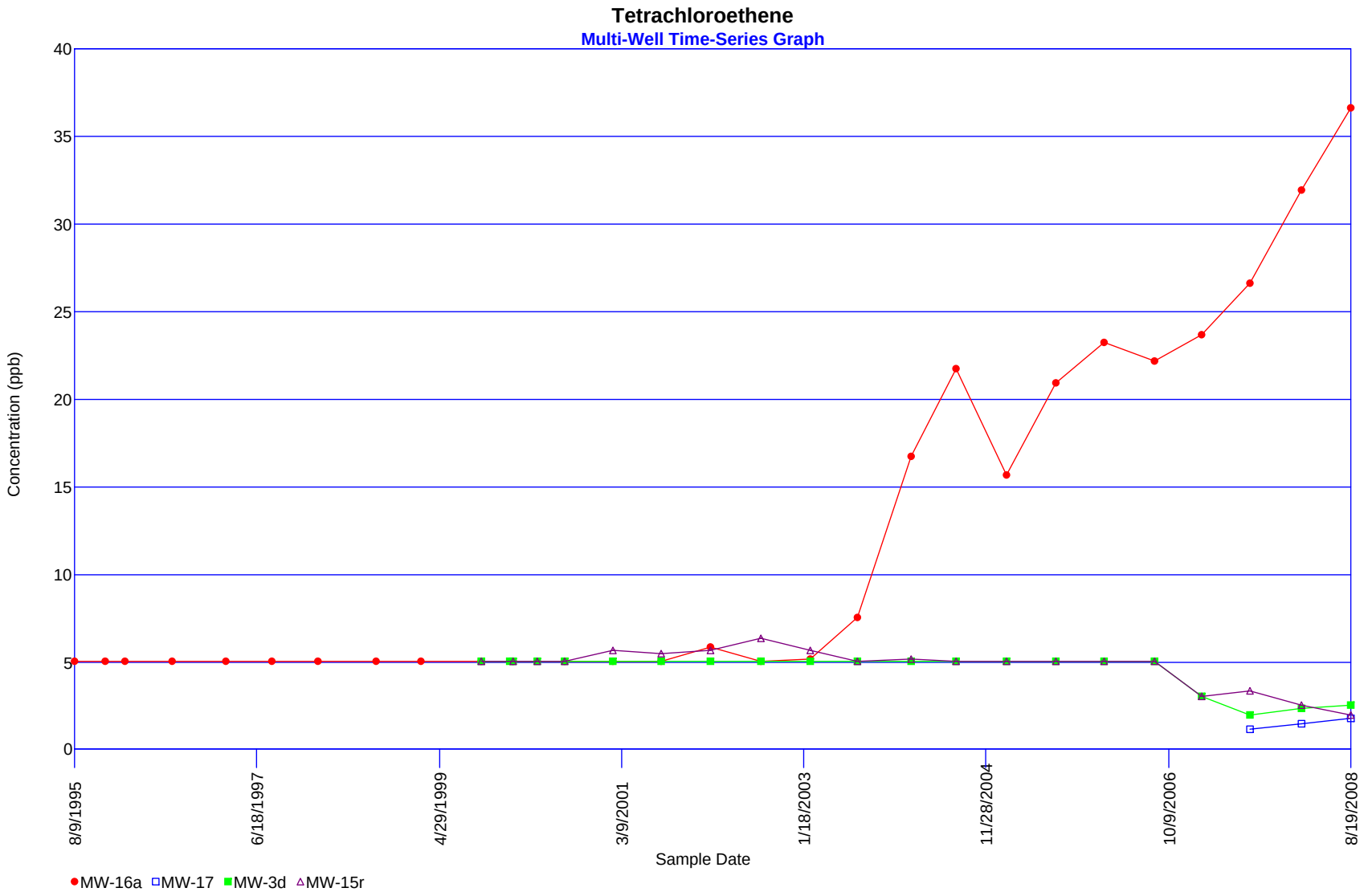

Chlorobenzene
Multi-Well Time-Series Graph
Concentration (ppb)
50
40
30
20
10
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-6d
MW-3a

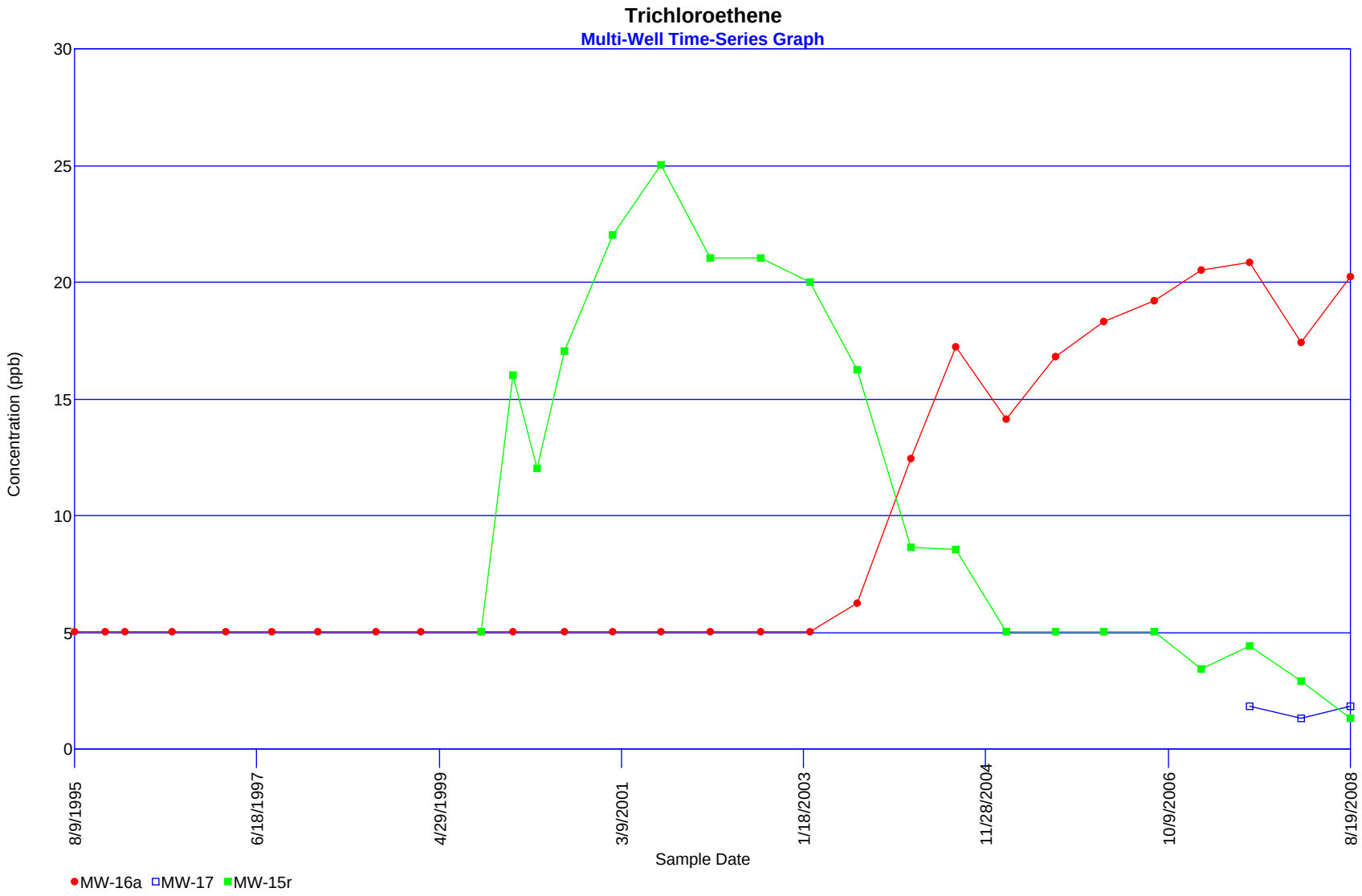

Cis-1,2-Dichloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
90
80
70
60
50
40
30
20
10
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-3a
MW-2a
MW-16a
MW-2ad

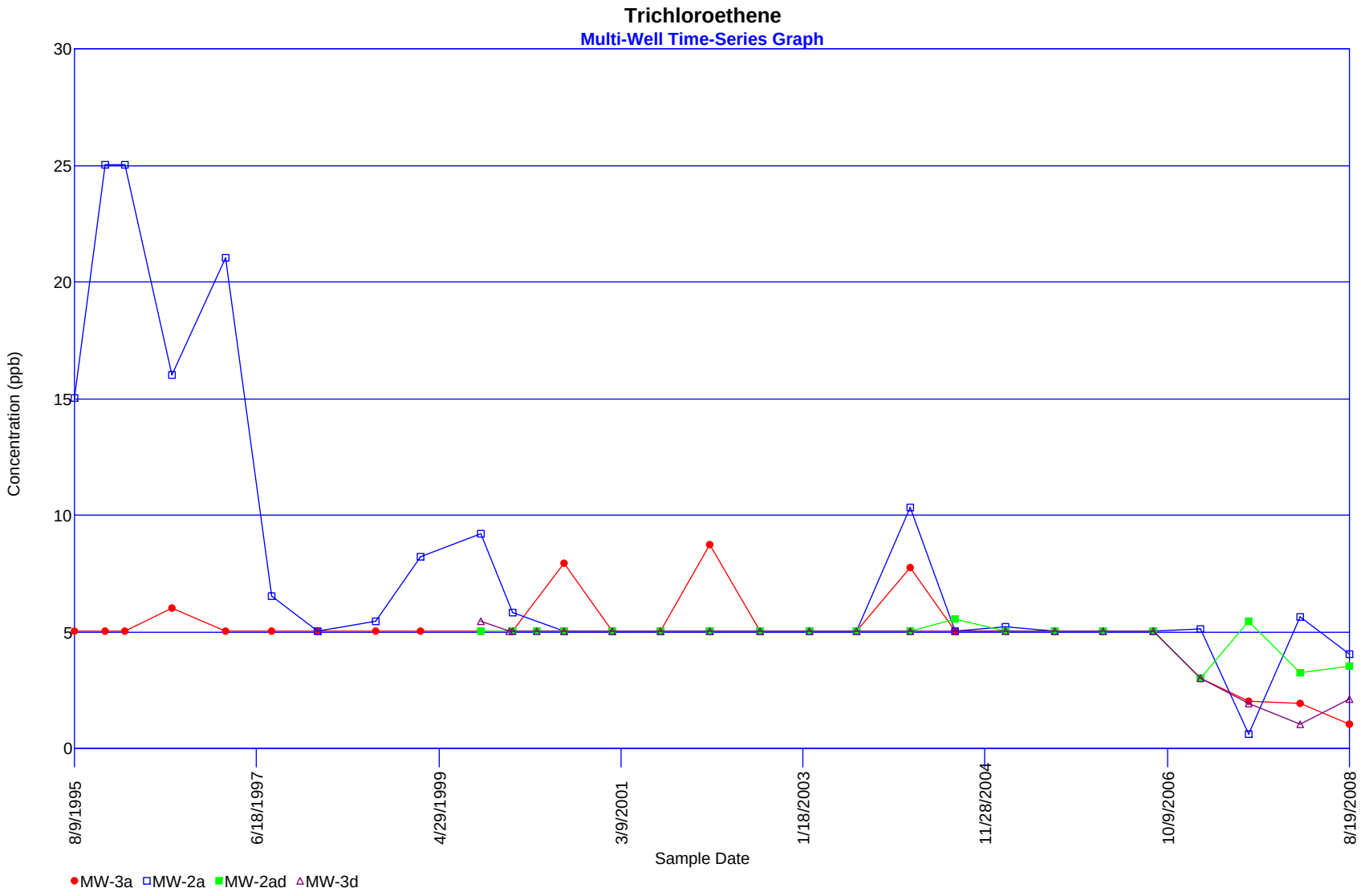

Dichlorodifluoromethane
Multi-Well Time-Series Graph
Concentration (ppb)
10
9
8
7
6
5
4
3
2
1
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-16a

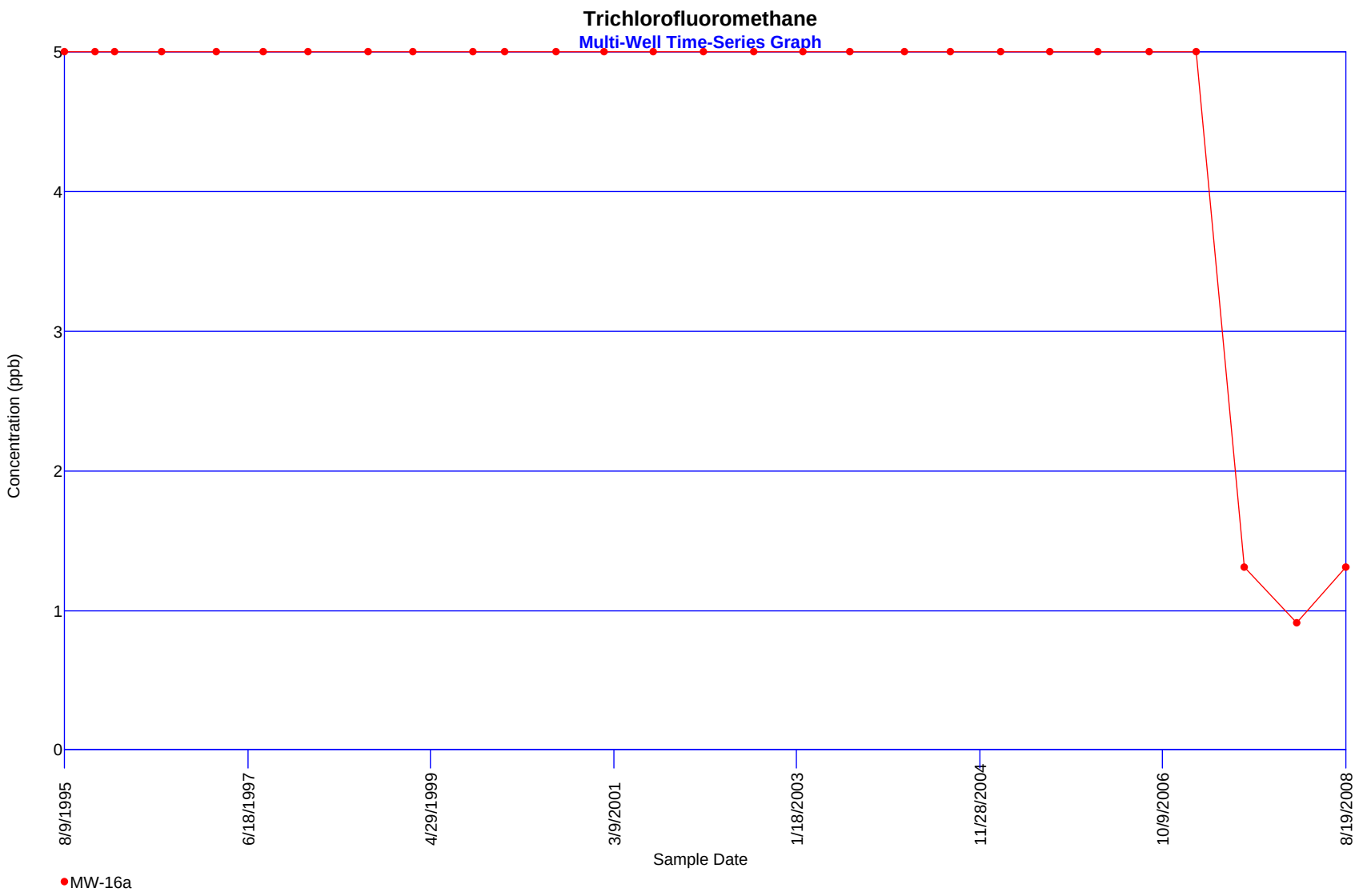

Mercury
Multi-Well Time-Series Graph
Concentration (ppb)
0
1
2
3
4
5
6
7
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-16a
MW-15r

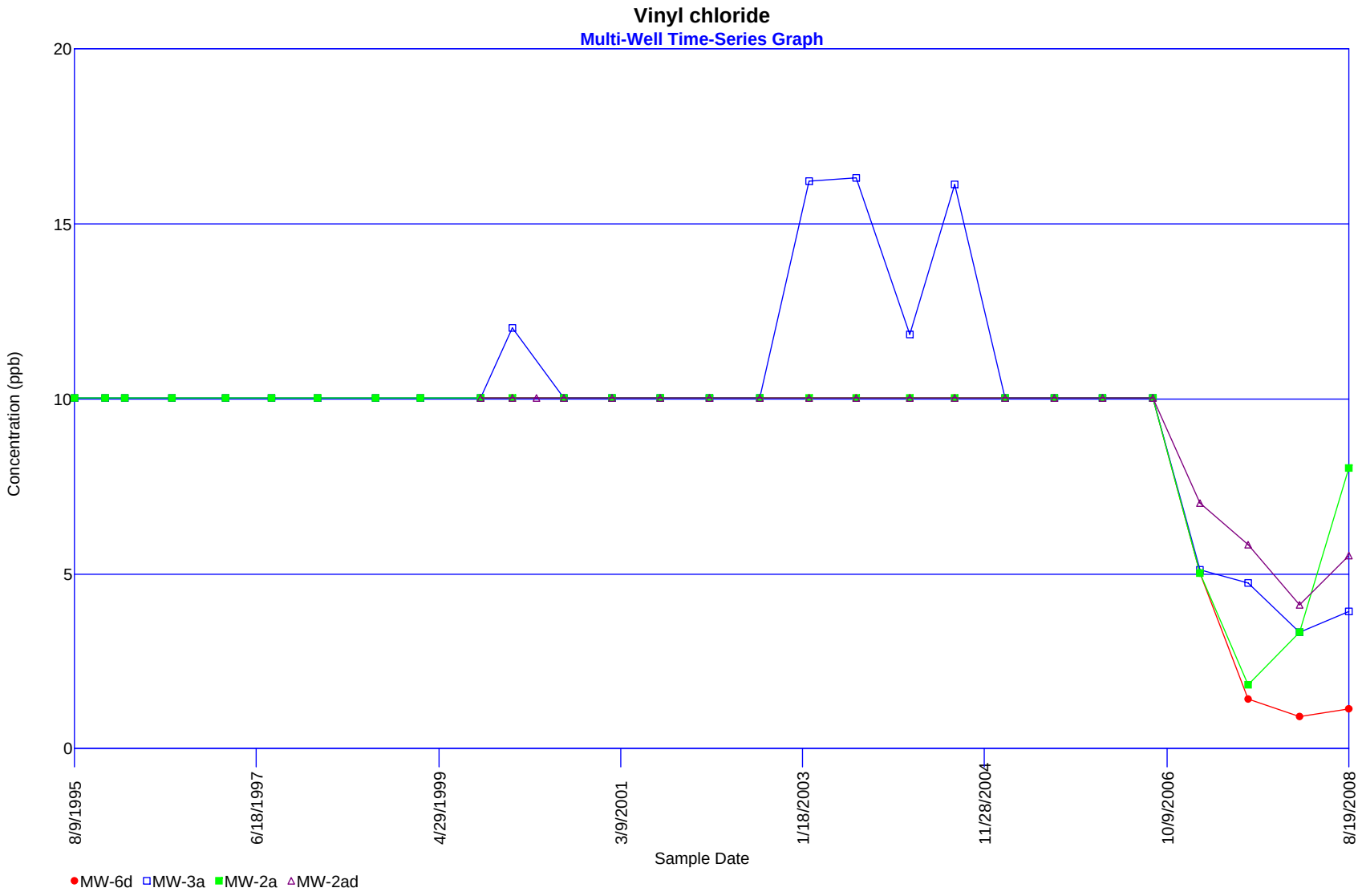

Methylene Chloride
Multi-Well Time-Series Graph
Concentration (ppb)
60
50
40
30
20
10
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-15r
MW-16a


Tetrachloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
40
35
30
25
20
15
10
5
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-16a
MW-17
MW-3d
MW-15r


Trichloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
30
25
20
15
10
5
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-16a
MW-17
MW-15r


Trichloroethene
Multi-Well Time-Series Graph
Concentration (ppb)
30
25
20
15
10
5
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-3a
MW-2a
MW-2ad
MW-3d


Trichlorofluoromethane
Multi-Well Time-Series Graph
Concentration (ppb)
5
4
3
2
1
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-16a


Vinyl chloride
Multi-Well Time-Series Graph
Concentration (ppb)
20
15
10
5
0
8/9/1995
6/18/1997
4/29/1999
3/9/2001
1/18/2003
11/28/2004
10/9/2006
8/19/2008
Sample Date
MW-6d
MW-3a
MW-2a
MW-2ad