

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

Phone: 919-828-0577 x122

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)
Johnston County Phase 5 MSW Landfill	680 County Home Road Smithfield, NC	51-03	.1600	10/18 and 10/23 - 24

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

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 Senior Hydrogeologist 919-828-0577 x122
Facility Representative Name (Print) Title (Area Code) Telephone Number

Joan Smyth 10/12/07
Signature Date

Affix NC Licensed/Professional Geologist/Engineer Seal here:



**Johnston County Landfill
Phase 5
Ground Water Monitoring Report**

**October 2007 Semi-annual
Monitoring Event**

**Johnston County Landfill
Smithfield, North Carolina
NC Solid Waste Permit # 51-01 and 51-02**

Prepared for:
Johnston County Department of Public Utilities
309 East Market Street
Smithfield, North Carolina 27577

December 2007



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

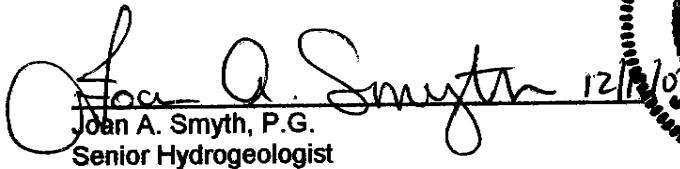
Fall 2007 Ground Water Monitoring Report

**Johnston County Landfill
Phase 5
Smithfield, North Carolina
NC Solid Waste Permit # 51-03**

Prepared for:

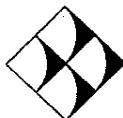
**Johnston County Department of Public Utilities
309 East Market Street
Smithfield, North Carolina 27577**

RSG Project No. Johnston - 4


Joan A. Smyth, P.G.
Senior Hydrogeologist



December 2007



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

**Johnston County – Phase 5 Lined Landfill
Semi-annual Ground Water Monitoring Report
October 2007 Sampling Event**

1.0 INTRODUCTION1

2.0 SAMPLING PROCEDURES1

3.0 FIELD AND LABORATORY RESULTS1

 3.1 Laboratory Analysis.....1

 3.2 Field and Laboratory Results2

4.0 STATISTICAL ANALYSIS AND RESULTS2

 4.1 Statistical Analysis.....2

 4.2 2L/MCL Statistical Analysis.....2

5.0 GROUND WATER CHARACTERIZATION.....3

6.0 GROUND WATER ASSESSMENT.....3

7.0 CONCLUSIONS.....4

FIGURES

Figure 1 – Ground Water Potentiometric Map

TABLES

- Table 1 – Ground Water Elevations & Velocities
- Table 2 – Field Parameter Results
- Table 3 – Detected Constituents
- Table 4 – Statistical Summary

APPENDICES

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

1.0 Introduction

The Johnston County Landfill, currently operating under Solid Waste Permit # 51-02 (Phase 5) is required to submit semiannual ground water monitoring reports for Phase 5. This report presents the results of the second semi-annual monitoring event for 2007. This event was performed to comply with the semi-annual monitoring schedule required by NC Solid Waste Regulations.

The ground water monitoring for the Phase 5 landfill included 10 ground water monitoring wells and four leachate lagoon monitoring wells. This report includes summaries of the field procedures, laboratory analyses, statistical analyses, and ground water characterization for the Phase 5 site. Also included are summary tables of the results, summary of the statistical analysis, graphs of the data, and laboratory analytical reports.

2.0 Sampling Procedures

The sampling event, performed by trained personnel from Johnston County Landfill, consisted of collecting samples from 10 ground water wells (MW-5-1, MW-5-2, MW-5-3, MW-5-4, MW-5-5, MW-5-6, MW-5-7, MW-5-8, MW-5-9, and MW-5-10), shown in **Figure 1**. This sampling was conducted in accordance with the approved site Sampling and Analysis Plan. Also included in the analysis was a trip blank for quality control. Surface water samples were collected from two locations (SWPT-5-1 and SWPT-5-2) up and downstream from the landfill on Middle Creek.

Sampling methods followed the protocol outlined in the North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities (NCDENR, 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 Johnston County personnel in laboratory prepared containers for the specified analytical procedures. Samples were obtained through dedicated Micropurge low flow pumps. Ground water samples were properly preserved, placed on ice, and transported to the laboratory facility, Environment 1, Inc., within the specified holding times for each analysis.

3.0 Field and Laboratory Results

3.1 Laboratory Analysis

Ground water samples were collected from the monitoring network associated with Phase 5 using dedicated low-flow pumps. These samples were analyzed for Appendix I constituents.

3.2 Field and Laboratory Results

All samples were transported to the laboratory facility under proper chain of custody analyzed at the specified DWM Practical Quantitation Limits for Appendix I constituents. The laboratory report is attached for your review as **Appendix A**.

Ground water and field measurements included in **Table 2**, remained similar to previous results. The laboratory analysis detected four (4) inorganic constituents; beryllium (MW-5-2, MW-5-3), barium (MW-5-1, MW-5-2, MW-5-3, MW-5-6, MW-5-8 & MW-5-9), lead (MW-5-3) and zinc (MW-5-3, Mw-5-4 & MW-7) and one (1) organic constituent; 1,2-dichloropropane (MW-5-2, MW-5-8). **Table 3** summarizes the list of constituents detected.

There are currently two surface water monitoring points associated with Phase 5 (SW-5-1, and SW-5-2). It should be noted that location SW-5-2 was dry during this sampling event and could not be sampled. Laboratory analysis detected barium in SW-5-1.

Concentration above 2L standard were found in MW-5-2 (1,2-dichloropropane & beryllium), MW-3 (beryllium and lead) and in MW-5-8 (1,2-dichloropropane). These are highlighted in **Table 3**. Constituents detected below the PQL are denoted as “J” values and are also included in **Table 3**.

4.0 Statistical Analysis & Results

4.1 Statistical Analysis

The laboratory analytical results were entered into our statistical database for the site. 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 DSWM protocols for approved statistical analysis methods for groundwater data.

The data from this monitoring 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 on most wells due to the lack of normality, in the data. Statistical analysis was performed using MW-5-1 as background well and MW-5-2, MW-5-3, MW-5-4, MW-5-5, MW-5-6, MW-5-7, MW-5-8, MW-5-9 and MW-5-10 as the compliance wells. The statistical analysis reports are summarized in **Table 4**.

A review of the concentration vs. time graphs (**Appendix B**) shows no clear trends in inorganic concentrations. The inorganic results are likely due to natural variation in ground water chemistry. Organic parameter concentrations remained relatively consistent.

The following constituents: 1,2-dichloropropane (MW-5-8), Barium (MW-5-2) & lead (MW-5-3) were found to be statistically significant (see **Table 4**).

4.2 2L/MCL Statistical Analysis

For wells that showed statistically significant differences from background concentrations, additional analysis was performed. This analysis has recently been 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 lower of the 2L or MCL standard as a Ground Water Protection Standard (GWPS).

This analysis was performed using tolerance interval analysis. Since a smaller subset of wells was analyzed during this step, the compliance well data were retested for normal distribution. If the data were normally distributed, parametric tolerance intervals were constructed for each well and compared to the GWPS for each parameter. For those wells not exhibiting normal distribution, Poisson tolerance intervals were constructed. If the distribution of the data was marginally normal, both tests were run to cross-check the results. All of these cross-checks yielded the same results from both test methods.

The statistical results for this additional analysis are presented in **Table 4**. An upper tolerance limit higher than the GWPS standard was considered to be a statistically significant result. This analysis indicated statistically significant results for 1,2-dichloropropane (MW-5-8), barium (MW-5-2) & lead (MW-5-3).

5.0 Ground Water Characterization

A potentiometric surface map was prepared from ground water elevation data collected during this sampling event. Ground water velocity was calculated for each monitoring well on-site using the equation $V = (KI)/n$ where:

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

Ground water velocities ranged from 0.005 feet/day (MW-5-10) to 0.315 feet/day (MW-5-2). These calculations are included in **Table 1**. The data indicates that ground water is flowing generally to the north towards the tributaries of Middle Creek. This is consistent with ground water flow patterns previously seen at this site. The potentiometric surface map (**Figure 1**) is also attached for your review.

6.0 Ground Water Assessment

During previous events well MW-5-8 was found to have detectable levels of 1,2 Dichloropropane. During the fall 2006 sampling event, the pump was removed and the well hand bailed to evaluate the possibility of the pump as the source of impact. During the fall 2006 event the sample collected from the well had no detectable levels of 1, 2 Dichloropropane.

During the spring 2007 event detectable levels of this constituent were found in MW-5-8 and MW-5-2 two cross-gradient wells on opposite sides of the landfill. Samples from MW-5-8 for this event were collected in the same manner as they had been in fall 2006. Therefore, since the pump was not used during this event, it is unlikely to have impacted the samples collected.

Given that the leachate has had a “J-value” detection of this constituent that is below the Practical Quantitation Limit and orders of magnitude below the detected level in the ground water and in previous events has been non-detected in is unlikely the landfill is the source of this impact. Additionally, no other constituent detected in the leachate was found to be present in the samples from these wells.

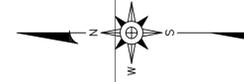
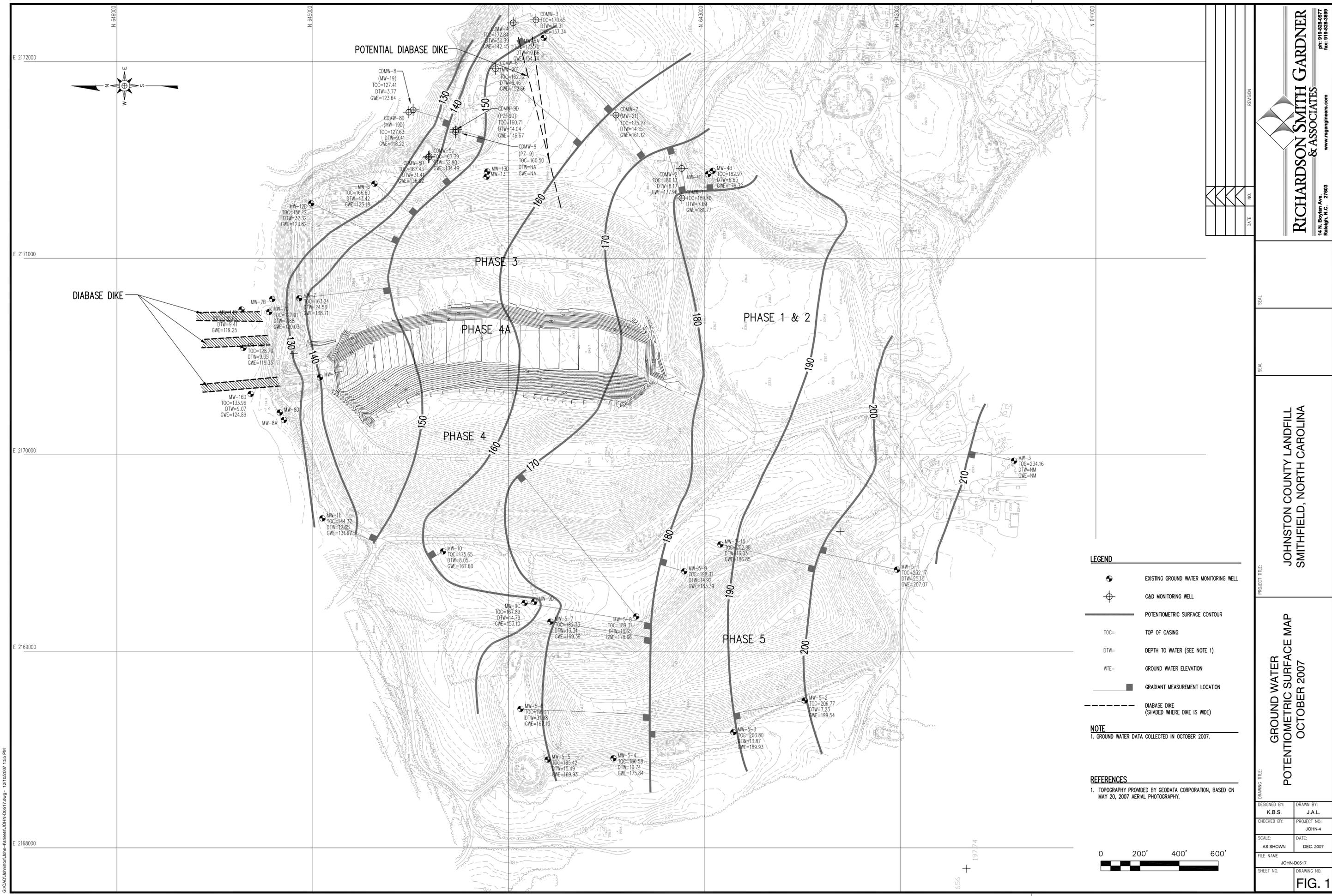
Further, given that this constituent is used as a pesticide and the site historically was a working farm, it appears that the historical use of the property may be the source. It should also be noted that other wells on-site that are associated with other landfill phases do not have detectable “J- value” levels of this constituent, indicating it is due to historical practices on the property.

We will continue to monitor the levels of this constituent over the coming semi-annual events, as well as the barium and zinc levels which are likely due to natural variation and suspended solids in the samples.

7.0 Conclusions

The results of this monitoring event indicate three constituents detectable in groundwater collected from wells associated with Phase 5. We are continuing to evaluate the detections of 1, 2 dichloropropane in this phase but believe it to be due to historic farming practices of the site. The next semi-annual sampling event will be performed in spring 2008. These results will be reported upon receipt of the laboratory data and completion of the statistical analyses.

Figures



- LEGEND**
- EXISTING GROUND WATER MONITORING WELL
 - C&D MONITORING WELL
 - POTENTIOMETRIC SURFACE CONTOUR
 - TOC= TOP OF CASING
 - DTW= DEPTH TO WATER (SEE NOTE 1)
 - WTE= GROUND WATER ELEVATION
 - GRADIENT MEASUREMENT LOCATION
 - DIABASE DIKE (SHADED WHERE DIKE IS WIDE)
- NOTE**
1. GROUND WATER DATA COLLECTED IN OCTOBER 2007.

- REFERENCES**
1. TOPOGRAPHY PROVIDED BY GEODATA CORPORATION, BASED ON MAY 20, 2007 AERIAL PHOTOGRAPHY.
- 0 200' 400' 600'

REVISION	NO.	DATE

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PROJECT TITLE:
**JOHNSTON COUNTY LANDFILL
 SMITHFIELD, NORTH CAROLINA**

DRAWING TITLE:
**GROUND WATER
 POTENTIOMETRIC SURFACE MAP
 OCTOBER 2007**

DESIGNED BY: K.B.S.	DRAWN BY: J.A.L.
CHECKED BY:	PROJECT NO.: JOHN-4
SCALE: AS SHOWN	DATE: DEC. 2007
FILE NAME: JOHN-D0517	DRAWING NO.:
SHEET NO.:	FIG. 1

G:\CAD\Johnston\John-4\smthfld\JOHN-D0517.dwg - 12/02/07 1:55 PM

Tables

Table 1
Johnston County Phase 5 Lined Landfill
Ground Water Elevations & Velocities
10/18/2007

Well	TOC Elevation (feet)	Water Level (feet)	GW Elev (feet)	Hyd. Cond. (ft/day)	Porosity (%)	Gradient (ft/ft)	Velocity (ft/day)
MW-5-1	232.17	25.1	207.07	2.275	0.2	0.018	0.200
MW-5-2	206.77	7.23	199.54	5.247	0.2	0.012	0.315
MW-5-3	203.8	13.87	189.93	0.995	0.2	0.023	0.114
MW-5-4	186.58	10.74	175.84	0.465	0.2	0.022	0.050
MW-5-5	185.42	15.49	169.93	0.261	0.2	0.019	0.025
MW-5-6	199.11	31.98	167.13	0.366	0.2	0.020	0.036
MW-5-7	182.73	13.34	169.39	0.422	0.2	0.020	0.042
MW-5-8	189.31	10.65	178.66	0.312	0.2	0.009	0.014
MW-5-9	198.31	14.92	183.39	0.309	0.2	0.026	0.040
MW-5-10	202.88	16.03	186.85	0.037	0.2	0.026	0.005
LL-1	na	na	na	na	na	na	na
LL-2	na	20.52	na	na	na	na	na
LL-3	na	22.56	na	na	na	na	na
LL-4	na	12.72	na	na	na	na	na

Notes Velocity Calculated from $V=K*I/n$
V = velocity
K = Hydraulic Conductivity
I = Gradient
n = Porosity
Hydraulic Conductivity data from slug testing
Porosity values assumed from Groundwater & Wells (Driscoll)
na = not available

Table 2
Johnston County Phase 5 Lined Landfill
Field Parameters
10/18/2007

Well Identification #	Static Water Level (ft) * (DTW)	Temperature (°Celsius)	Turbidity (NTU)	pH	Specific Conductivity (uS/cm)
MW – 5-1	25.1	20.16	220	4.29	213
MW – 5-2	7.23	19.21	78	4.1	362
MW – 5-3	13.87	20.27	ES	4.49	74
MW – 5-4	10.74	17.71	43.5	4.74	40
MW – 5-5	15.49	20.58	7.64	4.67	36
MW – 5-6	31.98	19.82	4.86	4.77	61
MW – 5-7	13.34	17.38	52.9	4.79	50
MW – 5-8	10.65	18.88	2.52	4.93	179
MW – 5-9	14.92	18.53	38.3	4.5	68
MW – 5-10	16.03	18.24	259	4.7	35
Phase 5 Direct Leachate	N/A	20.11	160	6.87	6470
Lagoon Lchte.#1	BPH	20.62	2.89	5.26	80
Lagoon Lchte. #2	20.52	18.23	1.78	5.42	77
Lagoon Lchte. #3	22.56	18.26	8.13	5.49	52
Lagoon Lchte. #4	12.72	17.08	6.27	5.66	96
SW5 – 1	N/A	17.29	7.81	6.18	285
SW5 – 2	N/A	N/S	N/S	N/S	N/S

N/S - Not Sampled
N/A - Not Analyzed
BPH - Blow Pump head

Table 3
Johnston County Phase 5 Lined Landfill
Detected Inorganic and Organic Constituents
10/18/2007

Inorganic Constituents

Parameter	PQL	2L	MW-5-1	MW-5-2	MW-5-3	MW-5-4	MW-5-5	MW-5-6	MW-5-7	MW-5-8	MW-5-9	MW-5-10	SW-5-1	SW-5-2
Antimony	6	---	0.1 J	0.4 J	0.1 J	ND	ND	ND	ND	ND	ND	0.1 J	ND	ND
Arsenic	10	50	4.4 J	0.7 J	2 J	ND	ND	ND	0.5 J	ND	0.7 J	1.5 J	ND	ND
Barium	100	2000	326	606	118	95.8 J	65.9 J	124	70.8 J	264	169	55 J	535	ND
Beryllium	1	---	0.6 J	1.4	1.2	0.3 J	0.1 J	0.2 J	0.3 J	0.2 J	0.4 J	0.2 J	0.1 J	ND
Cadmium	1	5	0.2 J	0.4 J	0.3 J	0.1 J	ND	ND	0.1 J	0.1 J	0.1 J	0.2 J	0.1 J	ND
Cobalt	10	---	3.6 J	7.6 J	2.4 J	5.1 J	4.2 J	4.2 J	9.2 J	3.5 J	3.1 J	3.7 J	1.7 J	ND
Copper	10	1000	1.7 J	1.9 J	8.3 J	2.8 J	0.9 J	1.6 J	2.4 J	0.6 J	1.6 J	3.1 J	0.8 J	ND
Lead	10	15	7.2 J	9.2 J	17	2.5 J	2.5 J	5.8 J	2	3.5 J	3.4 J	8.3 J	0.3 J	ND
Nickel	50	100	5.2 J	8.7 J	2.5 J	4.3 J	1.7 J	2 J	9.2 J	3.5 J	2.9 J	2 J	4.2 J	ND
Selenium	10	50	0.6 J	1.1 J	1.4 J	ND	ND	ND	ND	ND	0.5 J	1.6 J	ND	ND
Total Chromium	10	50	6.9 J	0.5 J	4.4 J	0.6 J	0.4 J	ND	0.8 J	ND	1.3 J	3.2 J	ND	ND
Vanadium	25	---	17.3 J	2.5 J	16.8 J	1.3 J	0.8 J	ND	1.8 J	ND	3.3 J	8.5 J	0.6 J	ND
Thallium	5	---	0.2 J	0.2 J	0.1 J	0.1 J	ND	ND	ND	0.1 J	ND	0.2 J	0.2 J	ND
Zinc	10	2100	5.7 J	8.9 J	14	16	5.8 J	3.3 J	16	8.7 J	6.5 J	5.3 J	5.9 J	ND

Organic Constituents

Parameter	PQL	2L	MW-5-1	MW-5-2	MW-5-3	MW-5-4	MW-5-5	MW-5-6	MW-5-7	MW-5-8	MW-5-9	MW-5-10	SW-5-1	SW-5-2
1,1-Dichloroethane	5	700	ND	ND	ND	ND	ND	0.2 J	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	1	0.005	ND	0.4 J	ND	ND	ND	ND	ND	0.3 J	ND	ND	ND	ND
1,2-Dichloropropane	1	---	ND	3.9	ND	ND	ND	ND	0.4 J	7.6	0.4 J	ND	ND	ND
Acetone	100	700	ND	ND	ND	ND	2.4 J	ND	ND	2 J	ND	1.3 J	1.5 J	ND
Benzene	1	1	ND	ND	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND
Chloroform	5	0.19	ND	ND	ND	ND	ND	0.2 J	ND	ND	ND	ND	ND	ND
Tetrachloroethene	3	0.7	ND	ND	ND	ND	ND	0.2 J	ND	ND	ND	ND	ND	ND

- ND - Not detected at or above PQL
- Shading - Levels above 2L standard or no 2L standard
- Bold Letters - Constituent detected above PQL
- J - Detected constituents below PQL limit

All PQLs, 2L Standards and Results are in ug/l.

Table 4
Johnston County Phase 5 Landfill
Statistical Analysis Summary
10/18/2007

Location	Parameter	Result	Detection Limit	Test Units	%ND	Test	Statistically Significant?	2nd statistical Analysis	Test
MW-5-2	Barium	0.606	<0.100	mg/l	85.5	NPPL	Y	Y	MCL-PTI (1992)
MW-5-3	Barium	0.118	<0.100	mg/l	85.5	NPPL	N	---	---
MW-5-6	Barium	0.124	<0.100	mg/l	85.5	NPPL	N	---	---
MW-5-8	Barium	0.264	<0.100	mg/l	85.5	NPPL	N	---	---
MW-5-9	Barium	0.169	<0.100	mg/l	85.5	NPPL	N	---	---
MW-5-2	Beryllium	0.0014	<0.001	mg/l	88.4	NPPL	N	---	---
MW-5-3	Beryllium	0.0012	<0.001	mg/l	88.4	NPPL	N	---	---
MW-5-3	Lead	0.017	<0.010	mg/l	82.6	NPPL	Y	Y	MCL-PTI (1992)
MW-5-3	Zinc	0.014	<0.010	mg/l	90.2	PPL with 1/2 DL	N	---	---
MW-5-4	Zinc	0.016	<0.010	mg/l	90.2	PPL with 1/2 DL	N	---	---
MW-5-7	Zinc	0.016	<0.010	mg/l	90.2	PPL with 1/2 DL	N	---	---
MW-5-2	1,2-Dichloropropane	3.9	<1	ug/l	82.6	NPPL	N	---	---
MW-5-8	1,2-Dichloropropane	7.6	<1	ug/l	82.6	NPPL	Y	Y	MCL-PTI (1992)

Legend:

%ND Method chosen due to percent non-detects
PPL Poisson Prediction Limit
NPPL Non-parametric Prediction Interval

Shading indicates statistical significance.

Notes:

MW-5-1 was used as the background well

Appendix A

Laboratory Analytical Report

Environment 1, Incorporated

REC'D NOV 26 2007

Drinking Water ID: 37715
Wastewater ID: 10

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

PHONE (752) 756-6208
FAX (752) 756-0633

ID#: 6033 A

JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD ,NC 27577

DATE COLLECTED: 10/18/07
DATE REPORTED : 11/05/07

REVIEWED BY: 

PARAMETERS	MDL	Leachate		Trip	Analysis		Method
		SWSL		Blank	Date	Analyst	Code
BOD, mg/l	2.0	2.0	41		10/19/07	ANO	SM5210B
COD, mg/l	10.0	10.0	62		10/22/07	TRB	HACH8000
Total Suspended Residue, mg/l	1.0	1.0	116		10/19/07	MRJ	SM2540D
Ammonia Nitrogen, mg/l	0.04	0.04	37.00		10/23/07	SSR	EPA350.1
Nitrate Nitrogen, mg/l	0.03	10.0	0.16 J		10/24/07	TWA	EPA353.2
Total Phosphorus, mg/l	0.04	0.04	0.20		10/25/07	TWA	EPA365.4
Sulfate, mg/l	5.0	250.0	15.5 J		10/22/07	TRB	SM4500-SO4E
Antimony, ug/l	0.05	6.0	0.4 J		10/30/07	CMF	EPA200.8
Arsenic, ug/l	0.47	10.0	3.1 J		10/30/07	CMF	EPA200.8
Barium, ug/l	0.04	100.0	162		10/30/07	CMF	EPA200.8
Beryllium, ug/l	0.08	1.0	0.1 J		10/30/07	CMF	EPA200.8
Cadmium, ug/l	0.06	1.0	0.2 J		10/30/07	CMF	EPA200.8
Cobalt, ug/l	0.41	10.0	31		10/30/07	CMF	EPA200.8
Copper, ug/l	0.20	10.0	1.9 J		10/30/07	CMF	EPA200.8
Total Chromium, ug/l	0.24	10.0	1.6 J		10/30/07	CMF	EPA200.8
Lead, ug/l	0.07	10.0	0.4 J		10/30/07	CMF	EPA200.8
Nickel, ug/l	0.66	50.0	6.9 J		10/30/07	CMF	EPA200.8
Selenium, ug/l	0.35	10.0	4.5 J		10/30/07	CMF	EPA200.8
Silver, ug/l	0.52	10.0	--- U		10/30/07	CMF	EPA200.8
Thallium, ug/l	0.07	5.0	0.2 J		03/05/07	CMF	EPA200.8
Vanadium, ug/l	0.42	25.0	1.7 J		03/05/07	CMF	EPA200.8
Zinc, ug/l	0.20	10.0	187		10/30/07	CMF	EPA200.8

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

Environment 1, Incorporated

Drinking Water ID: 17715
Wastewater ID: 10

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

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

CLIENT: JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD, NC 27577

CLIENT ID: 6033 A

ANALYST: MAO
DATE COLLECTED: 10/18/07
DATE ANALYZED: 10/26/07
DATE REPORTED: 11/05/07

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Leachate	Trip Blank
1. Chloromethane	0.18	1.0	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	--- U
3. Bromomethane	0.26	10.0	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U
7. Acetone	1.21	100.0	21.40 J	--- U
8. Iodomethane	0.12	10.0	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U
10. Methylene Chloride	0.14	1.0	0.60 J	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	0.80 J	--- U
13. Vinyl Acetate	0.20	5.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	5.20	--- U
15. 2-Butanone	0.85	100.0	1.00 J	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U
20. Benzene	0.16	1.0	0.60 J	--- U
21. 1,2-Dichloroethane	0.12	1.0	0.60 J	--- U
22. Trichloroethene	0.13	1.0	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	0.30 J	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U
27. Toluene	0.13	1.0	0.20 J	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U
30. Tetrachloroethene	0.16	1.0	--- U	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U
34. Chlorobenzene	0.13	3.0	1.10 J	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U
36. Ethylbenzene	0.16	1.0	0.50 J	--- U
37. Xylenes	0.48	5.0	1.00 J	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	0.20 J	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U

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

CHAIN OF CUSTODY RECORD

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

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

CLIENT: 6033 A Week: 39

JOHNSTON CO. LANDFILL (PHASE 5)
 MR. KEVIN SHIELDS
 P.O. BOX 2263
 SMITHFIELD NC 27577

(919) 938-4750

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS AT COLLECTION	DISINFECTION		BOD	COD	TSR	Ammonia Nitro.	Nitrate	PO4	Sulfate	Metals	EPA 8260B	8260 Dup. 1	PARAMETERS	CHEMICAL PRESERVATION	CONTAINER TYPE, P/G	PH CHECK (LAB)	CHLORINE NEUTRALIZED AT COLLECTION
	DATE	TIME				CHLORINE	UV															
Leachate	10/18/07	15:51	NA	21	10																	
Field Blank																						
RELINQUISHED BY (SIG.)	DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME	
<i>[Signature]</i>	10/18/07 10:15		<i>[Signature]</i>		10/15/07 8:22		<i>[Signature]</i>															
RELINQUISHED BY (SIG.)	DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME	
<i>[Signature]</i>			<i>[Signature]</i>				<i>[Signature]</i>															
RELINQUISHED BY (SIG.)	DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME		RECEIVED BY (SIG.)		DATE/TIME	
<i>[Signature]</i>			<i>[Signature]</i>				<i>[Signature]</i>															

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

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
 Y N

SAMPLES COLLECTED BY: *Kevin T. Shields*
 (Please Print)

SAMPLES RECEIVED IN LAB AT 10.6 °C

COMMENTS:

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

Instructions for completing this form are on the reverse side.

FORM #5

No 152241

Environment 1, Incorporated

REC'D NOV 26 2007

Drinking Water ID: 37115
Wastewater ID: 10

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

PHONE (52) 756-6208
FAX (52) 756-0633

ID#: 6033

JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD ,NC 27577

DATE COLLECTED: 10/23/07
DATE REPORTED : 11/08/07

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW5-1	MW5-2	MW5-3	MW5-4	MW5-6	Analysis		Method	
								Date	Analyst		Code
Antimony, ug/l	0.05	6.0	0.1 J	0.4 J	0.1 J	---	U	11/01/07	LFJ	EPA200.8	
Arsenic, ug/l	0.47	10.0	4.4 J	0.7 J	2.0 J	---	U	11/01/07	LFJ	EPA200.8	
Barium, ug/l	0.04	100.0	326	606	118	95.8 J	124	11/01/07	LFJ	EPA200.8	
Beryllium, ug/l	0.08	1.0	0.6 J	1.4	1.2	0.3 J	0.2 J	11/01/07	LFJ	EPA200.8	
Cadmium, ug/l	0.06	1.0	0.2 J	0.4 J	0.3 J	0.1 J	---	U	11/01/07	LFJ	EPA200.8
Cobalt, ug/l	0.41	10.0	3.6 J	7.6 J	2.4 J	5.1 J	4.2 J	11/01/07	LFJ	EPA200.8	
Copper, ug/l	0.20	10.0	1.7 J	1.9 J	8.3 J	2.8 J	1.6 J	11/01/07	LFJ	EPA200.8	
Total Chromium, ug/l	0.24	10.0	6.9 J	0.5 J	4.4 J	0.6 J	---	U	11/01/07	LFJ	EPA200.8
Lead, ug/l	0.07	10.0	7.2 J	9.2 J	17	2.5 J	5.8 J	11/01/07	LFJ	EPA200.8	
Nickel, ug/l	0.66	50.0	5.2 J	8.7 J	2.5 J	4.3 J	2.0 J	10/18/07	LFJ	EPA200.8	
Selenium, ug/l	0.35	10.0	0.6 J	1.1 J	1.4 J	---	U	11/01/07	LFJ	EPA200.8	
Silver, ug/l	0.52	10.0	---	U	---	U	---	U	11/01/07	LFJ	EPA200.8
Thallium, ug/l	0.07	5.0	0.2 J	0.2 J	0.1 J	0.1 J	---	U	11/01/07	LFJ	EPA200.8
Vanadium, ug/l	0.42	25.0	17.3 J	2.5 J	16.8 J	1.3 J	---	U	11/01/07	LFJ	EPA200.8
Zinc, ug/l	0.20	10.0	5.7 J	8.9 J	14	16	3.3 J	11/01/07	LFJ	EPA200.8	

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

ID#: 6033

JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD ,NC 27577

DATE COLLECTED: 10/23/07
DATE REPORTED : 11/08/07

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW5-7	MW5-8	MW5-9	Leachate	Leachate	Analysis	Method
						Lag #1	Lag #2	Date	Analyst
Antimony, ug/l	0.05	6.0	--- U	--- U	--- U	Missing	Missing	11/01/07	LFJ EPA200.8
Arsenic, ug/l	0.47	10.0	0.5 J	--- U	0.7 J	Missing	Missing	11/01/07	LFJ EPA200.8
Barium, ug/l	0.04	100.0	70.8 J	264	169	Missing	Missing	11/01/07	LFJ EPA200.8
Beryllium, ug/l	0.08	1.0	0.3 J	0.2 J	0.4 J	Missing	Missing	11/01/07	LFJ EPA200.8
Cadmium, ug/l	0.06	1.0	0.1 J	0.1 J	0.1 J	Missing	Missing	11/01/07	LFJ EPA200.8
Cobalt, ug/l	0.41	10.0	9.2 J	3.5 J	3.1 J	Missing	Missing	11/01/07	LFJ EPA200.8
Copper, ug/l	0.20	10.0	2.4 J	0.6 J	1.6 J	Missing	Missing	11/01/07	LFJ EPA200.8
Total Chromium, ug/l	0.24	10.0	0.8 J	--- U	1.3 J	Missing	Missing	11/01/07	LFJ EPA200.8
Lead, ug/l	0.07	10.0	2.0 J	3.5 J	3.4 J	Missing	Missing	11/01/07	LFJ EPA200.8
Nickel, ug/l	0.66	50.0	9.2 J	3.5 J	2.9 J	Missing	Missing	10/18/07	LFJ EPA200.8
Selenium, ug/l	0.35	10.0	--- U	--- U	0.5 J	Missing	Missing	11/01/07	LFJ EPA200.8
Silver, ug/l	0.52	10.0	--- U	--- U	--- U	Missing	Missing	11/01/07	LFJ EPA200.8
Thallium, ug/l	0.07	5.0	--- U	0.1 J	--- U	Missing	Missing	11/01/07	LFJ EPA200.8
Vanadium, ug/l	0.42	25.0	1.8 J	--- U	3.3 J	Missing	Missing	11/01/07	LFJ EPA200.8
Zinc, ug/l	0.20	10.0	16	8.7 J	6.5 J	Missing	Missing	11/01/07	LFJ EPA200.8
8260 (duplicate)	0.20	10.0				Missing	Missing	/ /	

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

Environment 1, Incorporated

Wastewater ID: 10

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

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

ID#: 6033

JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD ,NC 27577

DATE COLLECTED: 10/23/07
DATE REPORTED : 11/08/07

REVIEWED BY: 

PARAMETERS	MDL	Leachate		Leachate		Surface		MW-5 (5')	Analysis		Method		
		SWSL	Lag #3	Lag #4	Water #5-1	Water #5-2	Date		Analyst	Code			
Antimony, ug/l	0.05	6.0	Missing	Missing	---	U	Missing	---	U	11/01/07	LFJ	EPA200.8	
Arsenic, ug/l	0.47	10.0	Missing	Missing	---	U	Missing	---	U	11/01/07	LFJ	EPA200.8	
Barium, ug/l	0.04	100.0	Missing	Missing	535	Missing	535	Missing	65.9	J	11/01/07	LFJ	EPA200.8
Beryllium, ug/l	0.08	1.0	Missing	Missing	0.1	J	Missing	0.1	J	11/01/07	LFJ	EPA200.8	
Cadmium, ug/l	0.06	1.0	Missing	Missing	0.1	J	Missing	---	U	11/01/07	LFJ	EPA200.8	
Cobalt, ug/l	0.41	10.0	Missing	Missing	1.7	J	Missing	4.2	J	11/01/07	LFJ	EPA200.8	
Copper, ug/l	0.20	10.0	Missing	Missing	0.8	J	Missing	0.9	J	11/01/07	LFJ	EPA200.8	
Total Chromium, ug/l	0.24	10.0	Missing	Missing	---	U	Missing	0.4	J	11/01/07	LFJ	EPA200.8	
Lead, ug/l	0.07	10.0	Missing	Missing	0.3	J	Missing	2.5	J	11/01/07	LFJ	EPA200.8	
Nickel, ug/l	0.66	50.0	Missing	Missing	4.2	J	Missing	1.7	J	10/18/07	LFJ	EPA200.8	
Selenium, ug/l	0.35	10.0	Missing	Missing	---	U	Missing	---	U	11/01/07	LFJ	EPA200.8	
Silver, ug/l	0.52	10.0	Missing	Missing	---	U	Missing	---	U	11/01/07	LFJ	EPA200.8	
Thallium, ug/l	0.07	5.0	Missing	Missing	0.2	J	Missing	---	U	11/01/07	LFJ	EPA200.8	
Vanadium, ug/l	0.42	25.0	Missing	Missing	0.6	J	Missing	0.8	J	11/01/07	LFJ	EPA200.8	
Zinc, ug/l	0.20	10.0	Missing	Missing	5.9	J	Missing	5.8	J	11/01/07	LFJ	EPA200.8	
8260 (duplicate)	0.20	10.0	Missing	Missing			Missing			/	/		
8260 (duplicate)	0.20	10.0		Missing						/	/		
8260 (duplicate)	0.20	10.0		Missing						/	/		

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

Environment 1, Incorporated

Drinking Water ID: 37714
Wastewater ID: 10

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

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

ID#: 6033

JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD ,NC 27577

DATE COLLECTED: 10/23/07
DATE REPORTED : 11/08/07

REVIEWED BY: 

PARAMETERS	MDL	MW-5 (10')		Trip Blank	Analysis		Method Code
		SWSL			Date	Analyst	
Antimony, ug/l	0.05	6.0	0.1 J		11/01/07	LFJ	EPA200.8
Arsenic, ug/l	0.47	10.0	1.5 J		11/01/07	LFJ	EPA200.8
Barium, ug/l	0.04	100.0	55 J		11/01/07	LFJ	EPA200.8
Beryllium, ug/l	0.08	1.0	0.2 J		11/01/07	LFJ	EPA200.8
Cadmium, ug/l	0.06	1.0	0.2 J		11/01/07	LFJ	EPA200.8
Cobalt, ug/l	0.41	10.0	3.7 J		11/01/07	LFJ	EPA200.8
Copper, ug/l	0.20	10.0	3.1 J		11/01/07	LFJ	EPA200.8
Total Chromium, ug/l	0.24	10.0	3.2 J		11/01/07	LFJ	EPA200.8
Lead, ug/l	0.07	10.0	8.3 J		11/01/07	LFJ	EPA200.8
Nickel, ug/l	0.66	50.0	2 J		10/18/07	LFJ	EPA200.8
Selenium, ug/l	0.35	10.0	1.6 J		11/01/07	LFJ	EPA200.8
Silver, ug/l	0.52	10.0	--- U		11/01/07	LFJ	EPA200.8
Thallium, ug/l	0.07	5.0	0.2 J		11/01/07	LFJ	EPA200.8
Vanadium, ug/l	0.42	25.0	8.5 J		11/01/07	LFJ	EPA200.8
Zinc, ug/l	0.20	10.0	5.3 J		11/01/07	LFJ	EPA200.8

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

Environment 1, Incorporated

Drinking Water ID: 37313
Wastewater ID: 10

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

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

CLIENT: JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD, NC 27577

CLIENT ID: 6033

ANALYST: MAO
DATE COLLECTED: 10/23/07
DATE REPORTED: 11/08/07

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed:		11/02/07	11/02/07	11/02/07	11/02/07	11/02/07			
	MDL	SWSL	MW5-1	MW5-2	MW5-3	MW5-4	MW5-6			
1. Chloromethane	0.18	1.0	---	U	---	U	---	U		
2. Vinyl Chloride	0.34	1.0	---	U	---	U	---	U		
3. Bromomethane	0.26	10.0	---	U	---	U	---	U		
4. Chloroethane	0.29	10.0	---	U	---	U	---	U		
5. Trichlorofluoromethane	0.13	1.0	---	U	---	U	---	U		
6. 1,1-Dichloroethene	0.14	5.0	---	U	---	U	---	U		
7. Acetone	1.21	100.0	---	U	---	U	---	U		
8. Iodomethane	0.12	10.0	---	U	---	U	---	U		
9. Carbon Disulfide	0.14	100.0	---	U	---	U	---	U		
10. Methylene Chloride	0.14	1.0	---	U	---	U	---	U		
11. trans-1,2-Dichloroethene	0.13	5.0	---	U	---	U	---	U		
12. 1,1-Dichloroethane	0.16	5.0	---	U	---	U	---	0.20 J		
13. Vinyl Acetate	0.20	5.0	---	U	---	U	---	---	U	
14. Cis-1,2-Dichloroethene	0.14	5.0	---	U	---	U	---	---	U	
15. 2-Butanone	0.85	100.0	---	U	---	U	---	---	U	
16. Bromochloromethane	0.11	3.0	---	U	---	U	---	---	U	
17. Chloroform	0.13	5.0	---	U	---	U	---	---	0.20 J	
18. 1,1,1-Trichloroethane	0.11	1.0	---	U	---	U	---	---	---	U
19. Carbon Tetrachloride	0.13	1.0	---	U	---	U	---	---	---	U
20. Benzene	0.16	1.0	---	U	---	U	---	---	---	0.40 J
21. 1,2-Dichloroethane	0.12	1.0	---	U	---	U	---	---	---	U
22. Trichloroethene	0.13	1.0	---	U	---	U	---	---	---	U
23. 1,2-Dichloropropane	0.17	1.0	0.40 J	---	3.90	---	U	---	---	U
24. Bromodichloromethane	0.13	1.0	---	U	---	U	---	---	---	U
25. Cis-1,3-Dichloropropene	0.17	1.0	---	U	---	U	---	---	---	U
26. 4-Methyl-2-Pentanone	0.68	100.0	---	U	---	U	---	---	---	U
27. Toluene	0.13	1.0	---	U	---	U	---	---	---	U
28. trans-1,3-Dichloropropene	0.14	1.0	---	U	---	U	---	---	---	U
29. 1,1,2-Trichloroethane	0.20	1.0	---	U	---	U	---	---	---	U
30. Tetrachloroethene	0.16	1.0	---	U	---	U	---	---	---	0.20 J
31. 2-Hexanone	1.00	50.0	---	U	---	U	---	---	---	U
32. Dibromochloromethane	0.14	3.0	---	U	---	U	---	---	---	U
33. 1,2-Dibromoethane	0.13	1.0	---	U	---	U	---	---	---	U
34. Chlorobenzene	0.13	3.0	---	U	---	U	---	---	---	U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	---	U	---	U	---	---	---	U
36. Ethylbenzene	0.16	1.0	---	U	---	U	---	---	---	U
37. Xylenes	0.48	5.0	---	U	---	U	---	---	---	U
38. Dibromomethane	0.17	10.0	---	U	---	U	---	---	---	U
39. Styrene	0.16	1.0	---	U	---	U	---	---	---	U
40. Bromoform	0.11	3.0	---	U	---	U	---	---	---	U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	---	U	---	U	---	---	---	U
42. 1,2,3-Trichloropropane	0.06	1.0	---	U	0.40 J	---	---	---	---	U
43. 1,4-Dichlorobenzene	0.21	1.0	---	U	---	U	---	---	---	U
44. 1,2-Dichlorobenzene	0.13	5.0	---	U	---	U	---	---	---	U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	---	U	---	U	---	---	---	U
46. Acrylonitrile	1.49	200.0	---	U	---	U	---	---	---	U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	---	U	---	U	---	---	---	U

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

Environment 1, Incorporated

Drinking Water ID: 17719
Wastewater ID: 10

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

PHONE (: 52) 756-6208
FAX (: 52) 756-0633

CLIENT: JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD, NC 27577

CLIENT ID: 6033

ANALYST: MAO
DATE COLLECTED: 10/23/07
DATE REPORTED: 11/08/07

Page: 2

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed:		11/02/07	11/02/07	11/02/07	11/02/07	11/02/07
	MDL	SWSL	MW5-7	MW5-8	MW5-9	Surface Water #5-1	MW-5 (5')
1. Chloromethane	0.18	1.0	--- U	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	--- U	--- U	--- U	--- U
3. Bromomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U	--- U	--- U	--- U
7. Acetone	1.21	100.0	--- U	2.00 J	--- U	1.50 J	2.40 J
8. Iodomethane	0.12	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.14	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U	--- U	--- U	--- U	--- U
13. Vinyl Acetate	0.20	5.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U	--- U	--- U	--- U	--- U
15. 2-Butanone	0.85	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U	--- U	--- U	--- U	--- U
22. Trichloroethene	0.13	1.0	--- U	--- U	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	0.40 J	7.60	0.40 J	--- U	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.13	1.0	--- 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	--- U	--- 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	--- U	--- U	--- U	--- 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	--- 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	0.30 J	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U	--- U	--- U	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

PHONE (: 52) 756-6208
FAX (: 52) 756-0633

CLIENT: JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD, NC 27577

CLIENT ID: 6033

ANALYST: MAO
DATE COLLECTED: 10/23/07
DATE REPORTED: 11/08/07

Page: 3

REVIEWED BY: _____



VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed:		11/02/07	10/31/07
	MDL	SWSL	MW-5 (10')	Trip Blank
1. Chloromethane	0.18	1.0	--- U	--- U
2. Vinyl Chloride	0.34	1.0	--- U	--- U
3. Bromomethane	0.26	10.0	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	0.50 J
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U
7. Acetone	1.21	100.0	1.30 J	--- U
8. Iodomethane	0.12	10.0	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U
10. Methylene Chloride	0.14	1.0	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U	--- U
13. Vinyl Acetate	0.20	5.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U	--- U
15. 2-Butanone	0.85	100.0	--- U	--- U
16. Bromochloromethane	0.11	3.0	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U
20. Benzene	0.16	1.0	--- U	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U	--- U
22. Trichloroethene	0.13	1.0	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U
27. Toluene	0.13	1.0	--- U	0.70 J
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U
30. Tetrachloroethene	0.16	1.0	--- U	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U
34. Chlorobenzene	0.13	3.0	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U
37. Xylenes	0.48	5.0	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U

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

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

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

CLIENT: 6033 WEEK: 42

JONES COUNTY LANDFILL (PHASE 5)
 KEVIN SHIELDS
 P.O. BOX 2263
 SMITHFIELD, NC 27577
 (919) 938-4747

CHAIN OF CUSTODY RECORD

- 1 COOLER -

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l	AT COLLECTION	TEMPERATURE, °C	AT COLLECTION	# OF CONTAINERS	METALS	EPA 8160B	8260dp.1	8260dp.2	DATE/TIME	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	COMMENTS							
	DATE	TIME																					
MW-5-1	10/23/07	15:36	N/A		21		4	X	X	X	X												
MW-5-2		13:53			20		3	X	X	X	X												
MW-5-3		14:29			20		3	X	X	X	X												
MW-5-4		12:38			18		3	X	X	X	X												
MW-5-5		13:12			21		3	X	X	X	X												
MW-5-6		15:05			20		3	X	X	X	X												
MW-5-7		09:46			17		3	X	X	X	X												
MW-5-8		10:31			19		3	X	X	X	X												
MW-5-9		11:05			19		3	X	X	X	X												
MW-5-10		11:40			18		3	X	X	X	X												
SURFACE WATER 5-1		08:50			17		3	X	X	X	X												
RELINQUISHED BY (SIG.) (SAMPLER)		DATE/TIME			RECEIVED BY (SIG.)																		
<i>[Signature]</i>		10/24/07 10:15			<i>[Signature]</i>																		
RELINQUISHED BY (SIG.)		DATE/TIME			RECEIVED BY (SIG.)																		
RELINQUISHED BY (SIG.)		DATE/TIME			RECEIVED BY (SIG.)																		

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

No 156512

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

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

CLIENT: 6033 WEEK: 42

JOHNSTON COUNTY LANDFILL (PHASE 5)
 KEVIN SHIELDS
 P.O. Box 2263
 SMITHFIELD, NC 27577
 (919) 938-4747

CHAIN OF CUSTODY RECORD

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l	AT COLLECTION	TEMPERATURE, °C	AT COLLECTION	# OF CONTAINERS	METALS	EPA 8260 B	8260 D #1	8260 D #2	P	G	G	G	A	E	E	E	CHLORINE NEUTRALIZED AT COLLECTION	
	DATE	TIME																			
STREET WATER S-2	9/23/07		N/A	N/A	N/A	N/A	NO WATER - STREAM COMPLETELY DRY														
TRIP BLANK	↓		N/A	N/A	N/A	N/A															
RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME
<i>[Signature]</i>	10/24/07 10:15	<i>[Signature]</i>	10/24/07 2:41	<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>	
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>	
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RELINQUISHED BY (SIG.)	DATE/TIME
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>	

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

No 156514

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

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

ID#: 6033

JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD ,NC 27577

DATE COLLECTED: 10/24/07
DATE REPORTED : 11/13/07

REVIEWED BY: 

PARAMETERS	MDL	SWSL	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Analysis	Method
			Lag #1	Lag #2	Lag #3	Lag #4	Jun Box	Date	Analyst	
BOD, mg/l	2.0	2.0							--- U 10/25/07 TRB	SM5210B
COD, mg/l	10.0	10.0						1008	10/26/07 TRB	HACH8000
Total Suspended Residue, mg/l	1.0	1.0						351	10/25/07 MDM	SM2540D
Ammonia Nitrogen, mg/l	0.04	0.04						395	10/30/07 SSR	EPA350.1
Nitrate Nitrogen, mg/l	0.03	10.0						---	U 10/26/07 SSR	EPA353.2
Total Phosphorus, mg/l	0.04	0.04						1.22	10/29/07 SSR	EPA365.4
Antimony, ug/l	0.05	6.0	--- U	---	---	---	---	4.3 J	11/08/07 LFJ	EPA200.8
Arsenic, ug/l	0.47	10.0	---	---	---	---	---	58.1	11/08/07 LFJ	EPA200.8
Barium, ug/l	0.04	100.0	12.1 J	7.4 J	13.9 J	2.1 J	15.38 J	11/08/07 LFJ	EPA200.8	
Beryllium, ug/l	0.08	1.0	---	---	---	---	---	0.2 J	11/08/07 LFJ	EPA200.8
Cadmium, ug/l	0.06	1.0	0.1 J	---	---	---	---	0.7 J	11/08/07 LFJ	EPA200.8
Cobalt, ug/l	0.41	10.0	---	0.8 J	0.8 J	0.6 J	21	11/08/07 LFJ	EPA200.8	
Copper, ug/l	0.20	10.0	0.7 J	0.5 J	0.6 J	1.2 J	7.4 J	11/08/07 LFJ	EPA200.8	
Total Chromium, ug/l	0.24	10.0	1.0 J	1.0 J	0.5 J	3.2 J	12	11/08/07 LFJ	EPA200.8	
Lead, ug/l	0.07	10.0	0.1 J	0.1 J	0.2 J	0.1 J	1.8 J	11/08/07 LFJ	EPA200.8	
Nickel, ug/l	0.66	50.0	3.1 J	1.7 J	1.7 J	1.3 J	122	11/08/07 LFJ	EPA200.8	
Selenium, ug/l	0.35	10.0	1.3 J	---	---	---	---	---	U 11/08/07 LFJ	EPA200.8
Silver, ug/l	0.52	10.0	---	---	---	---	---	---	U 11/08/07 LFJ	EPA200.8
Thallium, ug/l	0.07	5.0	0.1 J	0.2 J	0.1 J	---	---	0.1 J	11/08/07 LFJ	EPA200.8
Vanadium, ug/l	0.42	25.0	---	---	0.5 J	1.9 J	9.7 J	11/08/07 LFJ	EPA200.8	
Zinc, ug/l	0.20	10.0	9.4 J	8.6 J	8.2 J	13	2172	11/08/07 LFJ	EPA200.8	

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

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

CLIENT: JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD, NC 27577

CLIENT ID: 6033

ANALYST: MAO
DATE COLLECTED: 10/24/07
DATE ANALYZED: 11/03/07
DATE REPORTED: 11/13/07

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Leachate Lag #1	Leachate Lag #2	Leachate Lag #3	Leachate Lag #4	Leachate Jun Box
1. Chloromethane	0.18	1.0	---	---	---	---	0.20 J
2. Vinyl Chloride	0.34	1.0	---	---	---	---	2.20
3. Bromomethane	0.26	10.0	---	---	---	---	---
4. Chloroethane	0.29	10.0	---	---	---	---	1.20 J
5. Trichlorofluoromethane	0.13	1.0	---	---	---	---	---
6. 1,1-Dichloroethene	0.14	5.0	---	---	---	---	---
7. Acetone	1.21	100.0	---	---	---	---	16.80 J
8. Iodomethane	0.12	10.0	---	---	---	---	---
9. Carbon Disulfide	0.14	100.0	---	---	---	---	---
10. Methylene Chloride	0.14	1.0	---	---	---	---	0.50 J
11. trans-1,2-Dichloroethene	0.13	5.0	---	---	---	---	0.30 J
12. 1,1-Dichloroethane	0.16	5.0	---	---	---	---	2.00 J
13. Vinyl Acetate	0.20	5.0	---	---	---	---	---
14. Cis-1,2-Dichloroethene	0.14	5.0	---	---	---	---	1.20 J
15. 2-Butanone	0.85	100.0	---	---	---	---	2.20 J
16. Bromochloromethane	0.11	3.0	---	---	---	---	---
17. Chloroform	0.13	5.0	0.60 J	0.70 J	---	0.80 J	---
18. 1,1,1-Trichloroethane	0.11	1.0	---	---	---	---	---
19. Carbon Tetrachloride	0.13	1.0	---	---	---	---	---
20. Benzene	0.16	1.0	---	---	---	---	9.20
21. 1,2-Dichloroethane	0.12	1.0	---	---	---	---	0.30 J
22. Trichloroethene	0.13	1.0	---	---	---	---	0.20 J
23. 1,2-Dichloropropane	0.17	1.0	---	---	---	---	---
24. Bromodichloromethane	0.13	1.0	0.20 J	0.20 J	---	0.20 J	---
25. Cis-1,3-Dichloropropene	0.17	1.0	---	---	---	---	---
26. 4-Methyl-2-Pentanone	0.68	100.0	---	---	---	1.20 J	---
27. Toluene	0.13	1.0	---	---	---	18.70	---
28. trans-1,3-Dichloropropene	0.14	1.0	---	---	---	---	---
29. 1,1,2-Trichloroethane	0.20	1.0	---	---	---	---	---
30. Tetrachloroethene	0.16	1.0	---	---	---	---	---
31. 2-Hexanone	1.00	50.0	---	---	---	---	---
32. Dibromochloromethane	0.14	3.0	---	---	---	---	---
33. 1,2-Dibromoethane	0.13	1.0	---	---	---	---	---
34. Chlorobenzene	0.13	3.0	---	---	---	2.10 J	---
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	---	---	---	---	---
36. Ethylbenzene	0.16	1.0	---	---	---	81.40	---
37. Xylenes	0.48	5.0	---	---	---	84.50	---
38. Dibromomethane	0.17	10.0	---	---	---	---	---
39. Styrene	0.16	1.0	---	---	---	1.50	---
40. Bromoform	0.11	3.0	---	---	---	---	---
41. 1,1,1,2,2-Tetrachloroethane	0.16	3.0	---	---	---	---	---
42. 1,2,3-Trichloropropane	0.06	1.0	---	---	---	---	---
43. 1,4-Dichlorobenzene	0.21	1.0	---	---	---	10.80	---
44. 1,2-Dichlorobenzene	0.13	5.0	---	---	---	0.20 J	---
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	---	---	---	---	---
46. Acrylonitrile	1.49	200.0	---	---	---	---	---
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	---	---	---	---	---

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

Environment 1, Incorporated

Drinking Water ID: 37713
Wastewater ID: 10

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

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

CLIENT: JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD, NC 27577

CLIENT ID: 6033

ANALYST: MAO
DATE COLLECTED: 10/24/07
DATE ANALYZED: 11/03/07
DATE REPORTED: 11/13/07

Page: 2

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Equipment Blank
1. Chloromethane	0.18	1.0	--- U
2. Vinyl Chloride	0.34	1.0	--- U
3. Bromomethane	0.26	10.0	--- U
4. Chloroethane	0.29	10.0	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U
7. Acetone	1.21	100.0	1.80 J
8. Iodomethane	0.12	10.0	--- U
9. Carbon Disulfide	0.14	100.0	--- U
10. Methylene Chloride	0.14	1.0	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U
13. Vinyl Acetate	0.20	5.0	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U
15. 2-Butanone	0.85	100.0	--- U
16. Bromochloromethane	0.11	3.0	--- U
17. Chloroform	0.13	5.0	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U
20. Benzene	0.16	1.0	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U
22. Trichloroethene	0.13	1.0	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U
24. Bromodichloromethane	0.13	1.0	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U
27. Toluene	0.13	1.0	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U
30. Tetrachloroethene	0.16	1.0	--- U
31. 2-Hexanone	1.00	50.0	--- U
32. Dibromochloromethane	0.14	3.0	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U
34. Chlorobenzene	0.13	3.0	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U
36. Ethylbenzene	0.16	1.0	--- U
37. Xylenes	0.48	5.0	--- U
38. Dibromomethane	0.17	10.0	--- U
39. Styrene	0.16	1.0	--- U
40. Bromoform	0.11	3.0	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U
46. Acrylonitrile	1.49	200.0	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

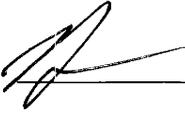
PHONE (:52) 756-6208
FAX (:52) 756-0633

CLIENT: JOHNSTON CO. LANDFILL (PHASE 5)
MR. KEVIN SHIELDS
P.O. BOX 2263
SMITHFIELD, NC 27577

CLIENT ID: 6033 Y

ANALYST: MAO
DATE COLLECTED: 10/24/07
DATE ANALYZED: 11/03/07
DATE REPORTED: 11/08/07

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Trip Blank
1. Chloromethane	0.18	1.0	--- U
2. Vinyl Chloride	0.34	1.0	--- U
3. Bromomethane	0.26	10.0	--- U
4. Chloroethane	0.29	10.0	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U
7. Acetone	1.21	100.0	--- U
8. Iodomethane	0.12	10.0	--- U
9. Carbon Disulfide	0.14	100.0	--- U
10. Methylene Chloride	0.14	1.0	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U
13. Vinyl Acetate	0.20	5.0	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U
15. 2-Butanone	0.85	100.0	--- U
16. Bromochloromethane	0.11	3.0	--- U
17. Chloroform	0.13	5.0	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U
20. Benzene	0.16	1.0	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U
22. Trichloroethene	0.13	1.0	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U
24. Bromodichloromethane	0.13	1.0	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U
27. Toluene	0.13	1.0	1.60
28. trans-1,3-Dichloropropene	0.14	1.0	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U
30. Tetrachloroethene	0.16	1.0	--- U
31. 2-Hexanone	1.00	50.0	--- U
32. Dibromochloromethane	0.14	3.0	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U
34. Chlorobenzene	0.13	3.0	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U
36. Ethylbenzene	0.16	1.0	--- U
37. Xylenes	0.48	5.0	--- U
38. Dibromomethane	0.17	10.0	--- U
39. Styrene	0.16	1.0	--- U
40. Bromoform	0.11	3.0	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U
46. Acrylonitrile	1.49	200.0	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U

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

**- Z SMALL COOLERS -
CHAIN OF CUSTODY RECORD**

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

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

CLIENT: 6033 WEEK: 42

JOHNSTON COUNTY LANDFILL (AMES)
KEVIN SHIELDS
P.O. Box 2263
SMITHFIELD, NC 27577
(919) 938-4747

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l	DISINFECTION	AT COLLECTION	TEMPERATURE, °C	# OF CONTAINERS	BOI	COD	TSR	Ammonia Nitro	NITRATE	PO4	METALS	EPA 8260B	B260 Dp. 1	B260 Dp. 2	B260 Dp. 3	PARAMETERS	CHEMICAL PRESERVATION	CONTAINER TYPE, P/G	pH CHECK (LAB)	CHLORINE NEUTRALIZED AT COLLECTION
	DATE	TIME																					
LEACHATE LAG #1	10/24/07	09:21	N/A	21	3									X	X	X							
LEACHATE LAG #2		10:59		18	3									X	X	X							
LEACHATE LAG #3		11:32		18	3									X	X	X							
LEACHATE LAG #4		12:04		17	5									X	X	X							
LEACHATE JUN. BOX (MANHOLE)		13:40		22	9									X	X	X							
TRIP BLANK		N/A		N/A	1																		
EQUIPMENT BLANK		14:58		N/A	1																		
RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	COMMENTS:																			
<i>[Signature]</i>	10/25/07 10:15	<i>[Signature]</i>	10/25/07 13:26																				
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME																				
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME																				

Instructions for completing this form are on the reverse side.

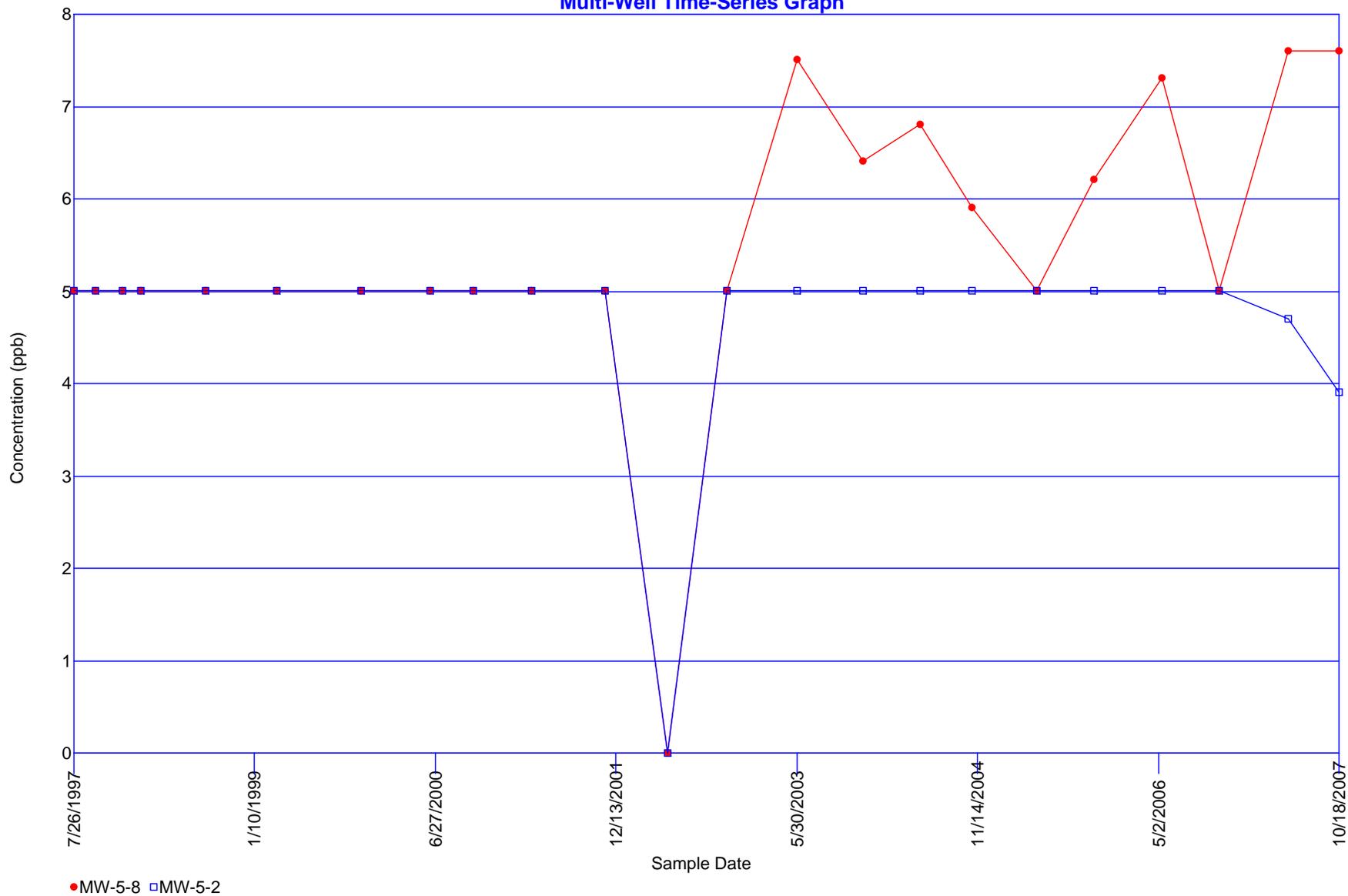
Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5 **No 152394**

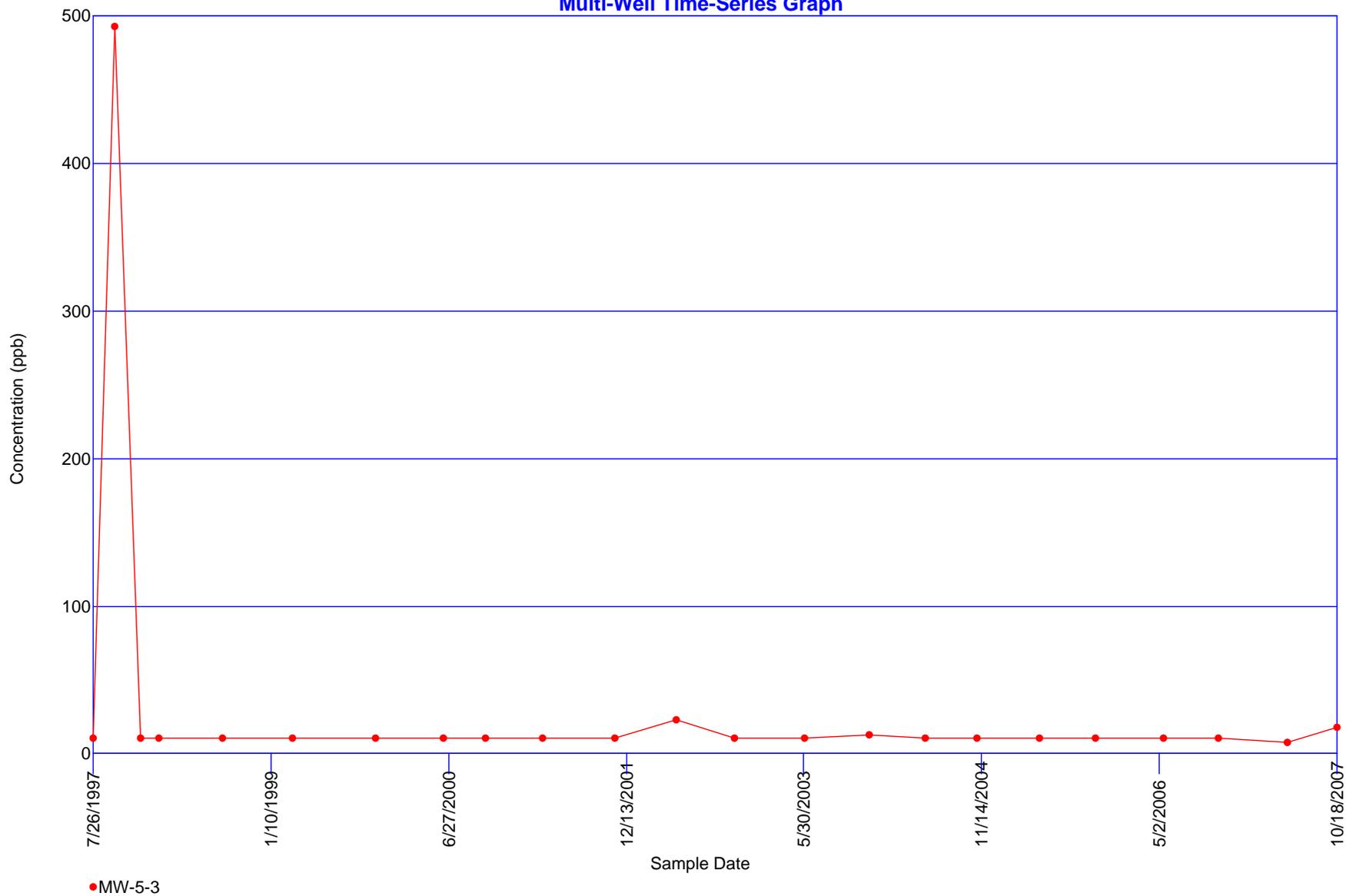
Appendix B

Time vs. Concentration Graphs

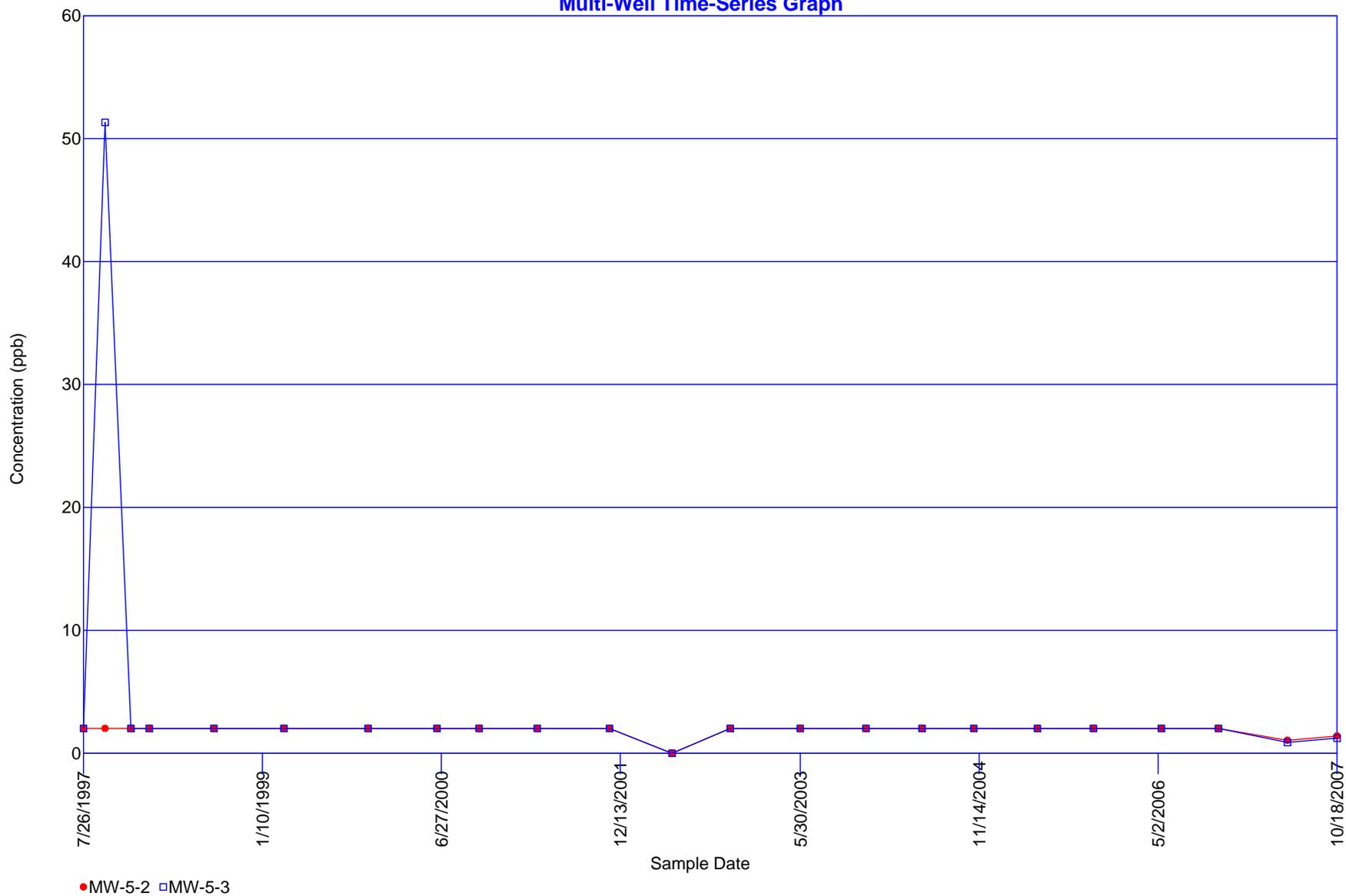
1,2-Dichloropropane Multi-Well Time-Series Graph



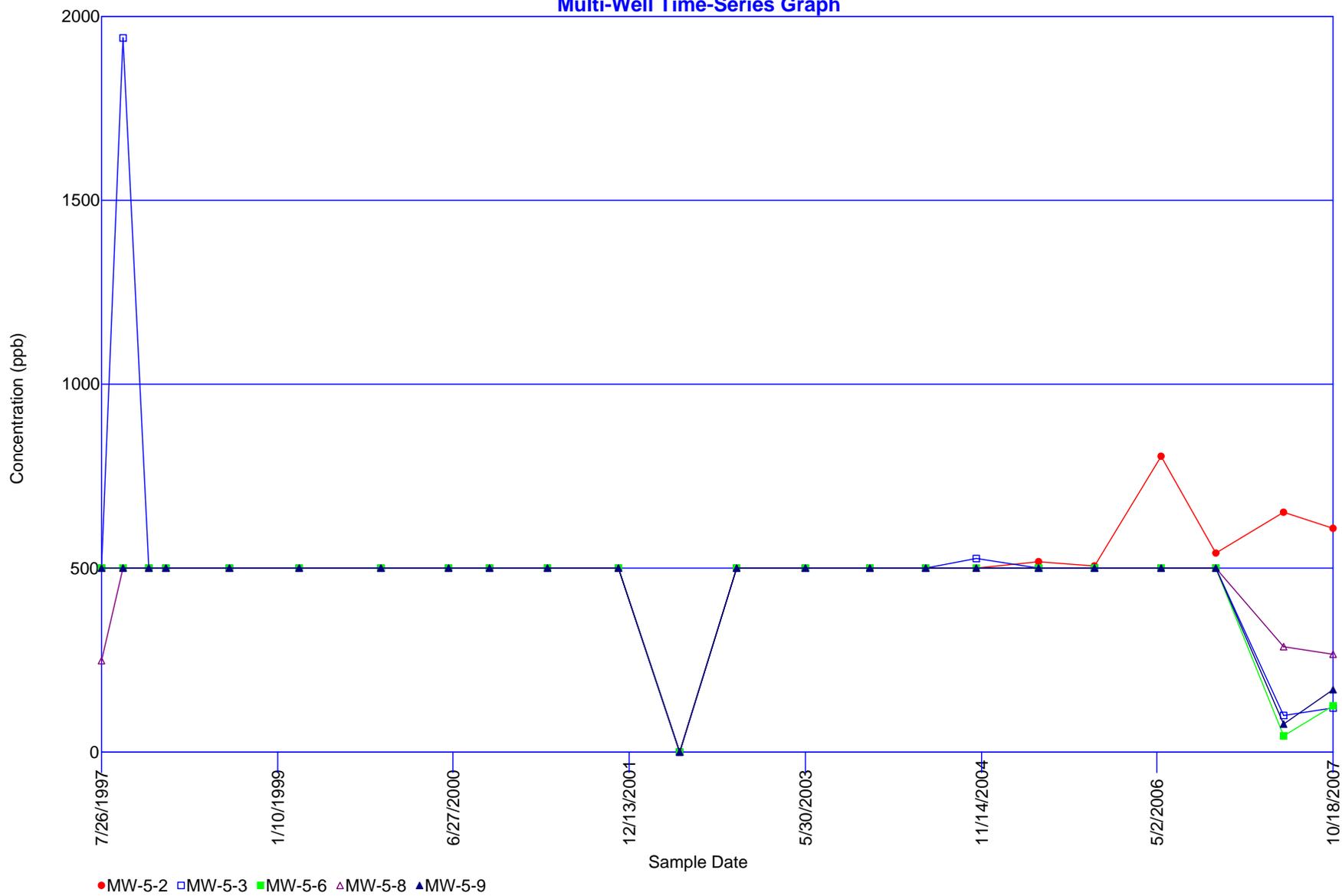
Lead Multi-Well Time-Series Graph



Beryllium Multi-Well Time-Series Graph



Barium Multi-Well Time-Series Graph



Zinc Multi-Well Time-Series Graph

