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):

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

Name: Trevor J. Benton, P.G. Phone: 864-288-1265

E-mail: trevor@blecorp.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
White Oak Landfill	278 Recycle Road Clyde, North Carolina	44-07	.1600	April 22, 2010

Environmental Status: (Check all that apply)

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

Type of data submitted: (Check all that apply)

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

Notification attached?

- ☐ No. No groundwater or surface water standards were exceeded.
- ☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
- ☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Trevor J. Benton, P.G.	Hydrogeologist	864-288-1265
Facility Representative Name (Print)	Title	(Area Code) Telephone Number

Signature 7/27/2010 Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:

NORTH CAROLINA LICENSED SEAL 2025 GEOLOGIST TREVOR J. BENTON

Revised 01/2007

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

REPORT OF GROUNDWATER QUALITY RESULTS & STATISTICAL ANALYSIS

FIRST SEMI-ANNUAL SAMPLING EVENT OF 2010

WHITE OAK LANDFILL
PERMIT NUMBER: 44-07
HAYWOOD COUNTY, NORTH CAROLINA

Prepared for:

HAYWOOD COUNTY SOLID WASTE MANAGEMENT
278 Recycle Road
Clyde, North Carolina 28721

Prepared By:

BUNNELL-LAMMONS ENGINEERING, INC.
6004 Ponders Court
Greenville, South Carolina 29615

July 27, 2010

BLE Project Number J08-1957-05

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

July 27, 2010

Haywood County Solid Waste Management
278 Recycle Road
Clyde, NC 28721

Attention: Mr. Stephen King
Solid Waste Director

Subject: **Report of Groundwater Quality Results & Statistical Analysis**
First Semi-Annual Sampling Event of 2010
White Oak Landfill
Permit Number: 44-07
Haywood County, North Carolina
BLE Project Number J08-1957-05

Dear Mr. King:

As authorized, Bunnell-Lammons Engineering, Inc. (BLE) has performed the statistical analysis of groundwater quality data obtained during the first semi-annual sampling event of 2010 for the White Oak Municipal Solid Waste (MSW) and Construction and Demolition (C&D) Landfills. The enclosed report describes the work performed and presents the results obtained with our conclusions. The purpose of this work was to statistically compare the laboratory analytical results of groundwater samples from the background monitoring wells to the downgradient monitoring wells at the subject landfill in accordance with Title 15A NCAC 13B .1632 (g), (h), and (i). This report of the sampling and statistical analysis has been prepared for submittal to the North Carolina Division of Waste Management (NCDWM) in accordance with Rule 15A NCAC 13B .1632 (j).

We appreciate the opportunity to serve as your geological consultant on this project and look forward to working with you on future projects. If you have any questions, please contact us at (864) 288-1265.

Sincerely,
BUNNELL-LAMMONS ENGINEERING, INC.

NORTH CAROLINA LICENSED SEAL 2025 GEOLOGIST TREVOR J. BENTON

NORTH CAROLINA LICENSED SEAL 1043 GEOLOGIST MARK S. PREDDY

Trevor J. Benton, L.G.
Project Geologist
Licensed, North Carolina No. 2025

Mark S. Preddy, L.G.
Senior Geologist
Licensed, North Carolina No. 1043

cc: Mr. Ervin Lane – NC DENR Solid Waste Section, 401 Oberlin Road, Ste. 150, Raleigh, NC 27605

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE (864) 288-1265
FAX (864) 288-4430

PROJECT INFORMATION

The subject landfill site is located in Haywood County, North Carolina, approximately twelve miles north of the city of Waynesville on White Oak Road at exit 15 of Interstate 40 (Figure 1). The Subtitle D lined MSW landfill has ten groundwater monitoring wells consisting of two upgradient (MW-11S and MW-11D) and eight downgradient wells (MW-1A, MW-2, MW-2D, MW-3, MW-3D, MW-4A, MW-8, and MW-9). Monitoring wells MW-5A, MW-5D, MW-12, MW-13S, and MW-13D were abandoned during June and July 2009 as related to the construction of Phase No. 3 at the facility. Additionally, there are four surface water sampling points (SW-1, SW-2, SW-3, and SW-5), a leachate lagoon sampling point (LSP), and a settling pond sampling point (SPP). The C&D landfill, which is located on the same property, is monitored by one upgradient (MW-14), one downgradient well (MW-15), and two locations for surface water monitoring (SW-6 and SW-7).

BLE was retained by Haywood County to prepare the semi-annual sampling reports for 2010. Historical data from multiple sources and in multiple formats had to be gathered from multiple sources and formats, and synthesized into this report. Water quality data available to BLE extends back to April 1993, however, many of the currently existing wells were not present during the earlier sampling events. As a result, the statistical database in this report uses data from sampling events ranging from April 2000 to the current sampling event (April 2010).

This report presents data from the first semi-annual sampling event in 2010 for the site. The water samples were collected and analyzed as required in North Carolina's regulations for operation of MSW and C&D landfills.

FIELD ACTIVITIES, SAMPLING, AND ANALYSIS

Groundwater and surface water samples were collected for the first semi-annual sampling event of 2010 by personnel from Pace Analytical Services, Inc. (Pace) of Asheville, North Carolina on April 21 through 22, 2010. Sampling was performed in general accordance with the *Operations Plan* for the White Oak Landfill. Summary tables of historic and current analytical results are attached in Appendix A (groundwater) and Appendix B (surface water).

Water samples were collected from the monitoring wells, surface water points, and the LSP. At the time of sampling, monitoring wells MW-3, MW-3D, and MW-9 were covered with fill soil and could not be accessed for sampling. Additionally, surface water point SW-5 was no longer assessable due to site construction activities and could not be sampled, and the SSP sampling location was dry and was not sampled. The collected samples were analyzed in the laboratory for North Carolina's *Appendix I* list of constituents that include total metals and volatile organic compounds (VOCs) and in the field for pH, specific conductance, and temperature. A copy of the Pace laboratory and field data is included in Appendix C.

The water level data collected during the groundwater sampling is presented in Table 1. A water table surface elevation contour map is presented as Figure 2 along with generalized groundwater

flow directions. Flow velocity calculations are provided on Table 2. Please note, hydraulic conductivity and effective porosity values for the existing wells were obtained from prior reports prepared by other consultants.

SUMMARY OF LABORATORY RESULTS

Groundwater

Concentrations of total arsenic (two wells), total barium (nine wells), total chromium (three wells), total cobalt (one well), total copper (two wells), total lead (two wells), total nickel (four wells), total vanadium (1 well), and total zinc (three wells) were detected in the groundwater monitoring wells during the current sampling event. None of the detected concentrations were above the North Carolina maximum contaminant level[1] (MCL). No VOC's were detected. A summary of the detected concentrations is included in Appendix A.

Surface Water

Total metals were detected in each of the five surface water samples, and the LPP samples during the current sampling event. The detections included total arsenic (LSP), total barium (five surface waters, and the LSP), total chromium (LSP), total cobalt (LSP), total copper (LSP), total nickel (LSP), total vanadium (LSP), and total zinc (two surface waters, and the LSP). No VOCs were detected in the samples from the surface water. However, two VOCs (cis-1,2-dichloroethene and toluene) and phosphorus were detected in the LSP sample. Only the detected concentration of toluene was above North Carolinas established surface water MCLs[2]; the other detections were either below the MCL or a MCL has not been established for the detected constituents. Summary of the detected surface water concentrations is included in Appendix B.

STATISTICAL METHODS PERFORMED

The purpose of performing statistical analysis of groundwater quality data is to determine if a release of leachate has occurred from the landfill cells to the groundwater at the site. The US EPA has prepared a guidance document for evaluating groundwater quality data titled *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance* (March 2009). The procedures and methodology used for data analysis of this project are consistent with this US EPA guidance document, and meet or exceed the performance criteria specified in the North Carolina solid waste management rules Title 15A NCAC 13B .1632(g-i). Five methods of statistical analysis were performed depending on the number of detected concentrations and the distribution of the data for a specific compound, as follows:

[1] North Carolina Department of Environment and Natural Resources, Classifications of Water Quality Standards, Section 15A NCAC 2L.202, December 1, 2005.

[2] North Carolina Department of Environment and Natural Resources, "Redbook", Surface Waters and Wetlands Standards, Section 15A NCAC 02B.0100, .0200, and .0300, May 1, 2007.

1. If greater than 90% of the data were not detected, Poisson Tolerance Limits were performed. Additionally, Wilcoxon rank-sum tests were performed for those compounds that failed the initial Poisson Tolerance Limits test;
2. If 15% to 90% of the data were not detected, the one-way non-parametric analysis of variance (ANOVA) Kruskal-Wallis rank-sum test was performed;

3. If less than 15% of the data were not detected, and if the data was normally distributed and homogeneous, then one-way parametric ANOVA was performed. If the data were not normally distributed and homogeneous, then a non-parametric type test was used (Kruskal-Wallis);

4. Alternatively, if greater than 50% of the data were not detected, Poisson Prediction Limits may be performed, or if less than 50% of the data were not detected, Normal Prediction Limits may be performed; and

5. Intrawell comparisons were performed, if necessary, using Shewhart-CUSUM control charts.

SUMMARY OF STATISTICAL RESULTS

The statistical analysis was performed on constituents that have been historically detected, and have been detected during the current sampling event. The statistical results summarized on Table 3 and included in Appendix D indicate that:

1. The Poisson Prediction Limit and Wilcoxon tests performed for total antimony, total selenium, total silver, total thallium, acetone, carbon disulfide, and 2-butanone did not calculate SSIs; and

2. The Kruskal-Wallis tests and Shewhart-CUSUM control charts did not calculate SSIs for total arsenic, total beryllium, total cadmium, total chromium, total cobalt, total copper, total lead, total nickel, total vanadium, and total zinc.

3. The ANOVA test and Shewhart-CUSUM control charts performed for total barium calculated a SSIs in well MW-2.

CONCLUSION

Concentrations of various total metals were detected in the groundwater monitoring wells and surface water sampling points during the current sampling event. Only the concentration of toluene in the leachate lagoons sampling point (LSP) was detected above North Carolina MCLs. The remaining detected concentrations were either below North Carolina's promulgated MCLs, or MCLs have not been established for a particular constituent. Additionally, only total barium in well MW-2 was calculated to be statistically significant.

In summary, the detected concentrations of total metals are most likely naturally occurring and related to sample turbidity. Metal cations typically adsorb to the surface of platy particles (clay and silt). Therefore, turbidity of the groundwater and surface water samples will relate to detected concentrations of the metal cations. Consequently, the metal concentrations detected should be considered natural background concentrations.

We recommend that the field sampling contractor test the groundwater for turbidity prior to sample collection during future sampling events, and that the monitoring wells that have been inadvertently covered with fill soil (MW-3, MW-3D, and MW-9) be uncovered and repaired prior to the next sampling event. We also recommend that sampling continue on a semi-annual basis for the *Appendix I* list of VOCs and total metals constituents.

TABLES

TABLE 1

POTENTIOMETRIC SURFACE DATA
White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Monitoring Well	TOC Elevation	Groundwater Elevation Data													
		10/30/03	4/20/04	10/21/04	4/18/05	10/13/05	4/25/06	10/20/06	4/26/07	10/31/07	4/24/08	10/20/08	4/22/09	10/26/09	4/22/10
MW-1A	2520.46	2502.66	2503.12	2502.74	2503.41	2502.02	2502.91	2501.25	2501.09	2495.77	2500.64	2495.39	2496.75	2497.21	2502.23
MW-2	2497.00	2466.57	2468.00	2466.94	2468.07	2466.29	2467.76	2466.13	2466.97	2465.40	2467.50	2465.51	2467.64	2466.22	2468.07
MW-2D	2497.94	2467.54	2469.02	2467.94	2469.11	2467.31	2468.76	2467.08	2467.94	2466.34	2468.34	2466.34	2468.69	2466.76	2469.12
MW-3	2437.66	2428.66	2430.25	2429.37	2430.96	2428.76	2430.98	2428.45	2429.31	2426.90	2429.66	2427.25	2429.42	NS	NS
MW-3D	2436.90	2420.13	2421.07	2420.58	2421.33	2420.09	2421.13	2420.19	2420.20	2419.28	2420.51	2419.35	2420.13	NS	NS
MW-4A	2499.45	2451.08	2451.13	2452.87	2452.32	2451.68	2449.88	2448.68	2448.37	2448.63	2448.98	2448.93	2448.89	NS	2454.63
MW-5A	2504.06	2498.18	2498.23	2497.91	2498.96	2497.97	2499.76	NS	2498.56	2497.51	2498.10	2496.81	2498.06	A	A
MW-5D	2503.28	2496.77	2496.90	2496.63	2497.30	2496.68	2497.96	NS	2497.10	2496.47	2497.19	2496.03	2497.09	A	A
MW-8	2477.70	2446.61	2447.54	2447.17	2448.00	2446.67	2447.74	2446.33	2446.96	2445.28	2446.98	2445.62	2446.89	2446.29	2447.51
MW-9	2430.15	2420.98	2421.06	2420.90	2421.02	2420.83	2420.99	2421.09	2420.87	2420.47	2420.75	2420.16	2420.78	NS	NS
MW-11S	2674.58	2587.72	2589.31	2590.86	2592.08	2593.90	2594.94	2595.11	2593.96	2592.58	2590.76	2589.38	2587.83	2587.19	2588.70
MW-11D	2675.21	2587.93	2589.95	2590.84	2592.06	2593.84	2594.62	2594.89	2593.67	2592.31	2590.45	2588.91	2587.59	2587.16	2588.74
MW-12	2529.77	2519.19	2518.13	2517.47	2518.23	2517.57	2518.77	2517.65	2517.87	2517.00	2517.82	2516.93	2517.59	A	A
MW-13S	2532.35	2521.63	2520.78	2519.68	2520.50	2520.03	2520.65	2519.56	2519.97	2518.60	2519.64	2518.42	2519.41	A	A
MW-13D	2531.05	2520.31	2519.29	2518.41	2519.22	2518.74	2519.29	2518.42	2518.69	2517.61	2518.48	2517.37	2518.30	A	A
MW-14	2711.69	2610.79	2611.66	2612.36	2613.19	2613.51	2612.41	2611.74	2610.50	2608.31	2607.56	2605.84	2605.24	2605.62	2608.80
MW-15	2547.41	2538.15	2538.46	2538.49	2538.70	2538.39	2538.71	2538.33	2538.33	2537.58	2538.06	2536.73	NS	2537.30	2541.26

NOTES:
1. Elevations are in FEET above mean sea level (MSL)
2. *TOC* = top of casing
3. Current water level measurements are from Pace Analytical Services field sampling notes
4. *NS* = Not sampled during event
5. A = Well abandoned.

Prepared By: IAI
Checked By: TZS

TABLE 2

GROUNDWATER FLOW DATA
White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Monitoring Well	Hydraulic Conductivity			Local Hydraulic Gradient (ft/ft)	Effective Porosity	Flow Velocity (ft/day)	Flow Velocity (ft/yr)
	cm/sec	ft/min	ft/day				
MW-1A	1.50E-04	2.95E-04	4.25E-01	0.0782	0.114	0.29	106.42
MW-2	1.50E-04	2.95E-04	4.31E+00	0.0782	0.114	2.95	1,077.51
MW-3	1.50E-04	2.95E-04	4.31E+00	NA	0.114	NA	NA
MW-4A	1.49E-04	2.93E-04	4.28E+00	0.0556	0.05	4.75	1,734.32
MW-8	1.50E-04	2.95E-04	4.31E+00	0.0782	0.114	2.95	1,077.51
MW-11S	2.40E-06	4.72E-06	6.89E-02	0.0574	0.114	0.03	12.66
MW-14	1.38E-05	2.72E-05	3.96E-01	0.0625	0.17	0.15	53.19
MW-15	2.10E-05	4.13E-05	6.03E-01	0.0625	0.17	0.22	80.94

Notes:

1. Hydraulic conductivity and effective porosity values are from prior site hydrogeologic studies performed by others.
2. Hydraulic gradients and flow velocities calculated from measurements taken during the February 2010 sampling event.
3. Groundwater flow velocities calculated using the equation $V = Ki/n_e$ where
4. V = velocity
5. K = hydraulic conductivity
6. i = hydraulic gradient
7. n_e = effective porosity
8. NA = information not available

TABLE 3

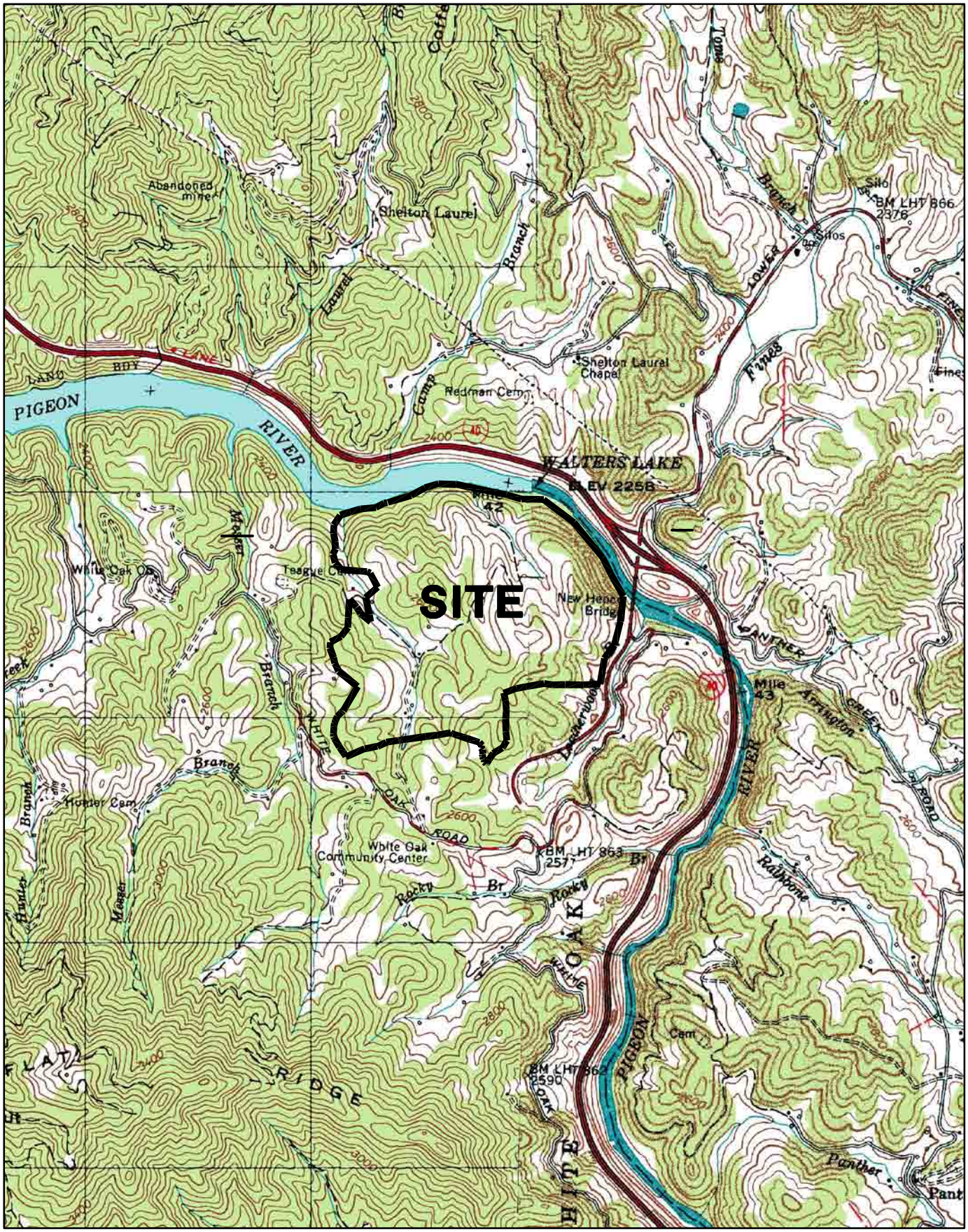
SUMMARY OF STATISTICAL ANALYSIS RESULTS
White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Chemical/ Compound	Percent ND	Primary Statistical Test	Primary Pass/Fail	Secondary Statistical Test	Secondary Pass/Fail	SSI Calculated	SSI Validated as Leachate	SSI Concentration Above MCL During Current Event
Total Antimony	97%	Poisson Prediction Limits	Pass	-	-	-	-	-
Total Arsenic	88%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Barium	9%	ANOVA	Fail	Shewhart-CUSUM	Fail	MW-2	No	No
Total Beryllium	81%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Cadmium	82%	Kruskal-Wallis	Pass	-	-	-	-	-
Total Chromium	49%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Cobalt	60%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Copper	56%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Lead	68%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Nickel	44%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Selenium	98%	Poisson Prediction Limits	Pass	-	-	-	-	-
Total Silver	99%	Poisson Prediction Limits	Pass	-	-	-	-	-
Total Thallium	91%	Poisson Prediction Limits	Pass	-	-	-	-	-
Total Vanadium	49%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Zinc	24%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Acetone	99%	Poisson Prediction Limits	Pass	-	-	-	-	-
Carbon Disulfide	98%	Poisson Prediction Limits	Pass	-	-	-	-	-
2-Butanone	99%	Poisson Prediction Limits	Pass	-	-	-	-	-

Notes:
1. MCL = *Maximum Contaminant Level*
2. SSI = *Statistically Significant Increase*

Prepared By: IAI
Checked By: MSP

FIGURES



2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

REFERENCE:
USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES,
COVE CREEK GAP AND FINES CREEK, N.C. QUADRANGLES, 1967.

DRAWN: ACE	DATE: 06-20-10	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP WHITE OAK LANDFILL HAYWOOD COUNTY, NORTH CAROLINA	FIGURE 1
CHECKED: TJB	CAD: WHITEOAK05-SLM			
APPROVED:	JOB NO: J08-1957-05			

LEGEND

◕	EXISTING GROUNDWATER MONITORING WELL
⊕	EXISTING PIEZOMETER
●	EXISTING PIEZOMETER
△	CONTROL POINT
⊗	EXISTING LANDFILL GAS MONITORING PROBE
■	SURFACE WATER SAMPLING LOCATION
2469.12	GROUNDWATER ELEVATION (IN FEET)
(2469.12)	GROUNDWATER ELEVATION IN A DEEP ZONE (IN FEET)
2560 ———	GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 20 FEET
— — →	GROUNDWATER FLOW DIRECTION
NS	NOT SAMPLED; THE WELL COULD NOT BE FOUND

NOTES:

1. WELLS IN DEEP ZONE NOT USED FOR CONTOURING PURPOSES.
2. WELLS MW-5A, MW-5D, MW-12, MW-13S AND MW-13D WERE ABANDONED FROM JUNE THROUGH JULY 2009.

DRAWING TITLED "CONCEPTUAL SITE PLAN, OPTION 1 & 2" BY McGILL ASSOCIATES DATED JUNE 2007.

REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE
CHECKED:	IAI
APPROVED:	MSP

DATE:	06-20-10
CAD FILE:	HCWOLF05-POT042210
JOB NO:	J08-1957-05

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)232-0355 FAX: (864)232-4480

GROUNDWATER ELEVATION CONTOUR MAP – 4/21/10
WHITE OAK MSW LANDFILL
HAYWOOD COUNTY, NORTH CAROLINA

FIGURE NO.
2

APPENDICES

APPENDIX A

SUMMARY TABLES OF GROUNDWATER ANALYTICAL RESULTS

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-24-2000)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2A	MW-2D	MW-3A	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.9	NS	NS	6.1	5.1	5.1	6.2	5.9	5.4	5.2	6.3	NS	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	72	NS	NS	69	55	51	89	85	89	100	130	NS	NS
Temperature	°C (on-site)	-	NE	12	NS	NS	13	14	14	12	12	13	13	10	NS	NS
Turbidity	NTU (on-site)	0.1	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Total Antimony (Sb)	µg/l	10	NE	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Total Arsenic (As)	µg/l	10	50	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Total Barium (Ba)	µg/l	5	1000	250	NS	NS	240	420	200	63	300	93	230	ND	NS	NS
Total Beryllium (Be)	µg/l	2	NE	4.4	NS	NS	ND	2	ND	2.2	ND	ND	ND	ND	NS	NS
Total Cadmium (Cd)	µg/l	1	5	2	NS	NS	ND	1.3	1.2	1.3	2.1	ND	5.4	ND	NS	NS
Total Chromium (Cr)	µg/l	5	50	15	NS	NS	18	17	11	ND	26	5.4	50	ND	NS	NS
Total Cobalt (Co)	µg/l	5	NE	ND	NS	NS	ND	8.2	5.4	ND	14	ND	16	ND	NS	NS
Total Copper (Cu)	µg/l	5	1000	12	NS	NS	ND	ND	13	ND	27	ND	22	ND	NS	NS
Total Lead (Pb)	µg/l	10	15	35	NS	NS	ND	ND	ND	ND	11	ND	ND	ND	NS	NS
Total Nickel (Ni)	µg/l	5	100	15	NS	NS	17	12	8.3	ND	24	6.7	22	ND	NS	NS
Total Selenium (Se)	µg/l	20	50	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Total Silver (Ag)	µg/l	2	18	3.7	NS	NS	ND	ND	ND	6.9	ND	ND	ND	ND	NS	NS
Total Thallium (Tl)	µg/l	2	NE	2	NS	NS	ND	3	2	4	ND	2	5	ND	NS	NS
Total Vanadium (V)	µg/l	5	NE	17	NS	NS	19	32	21	ND	29	8.9	78	ND	NS	NS
Total Zinc (Zn)	µg/l	10	2100	150	NS	NS	35	48	36	12	43	28	68	ND	NS	NS
Acetone	µg/l	100	700	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Acrylonitrile	µg/l	200	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Benzene	µg/l	5	1	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Bromochloromethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Bromodichloromethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Bromoform	µg/l	5	0.19	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Carbon Disulfide	µg/l	100	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Carbon tetrachloride	µg/l	10	0.3	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Chlorobenzene (mono)	µg/l	5	50	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Chloroethane	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Chloroform	µg/l	5	0.19	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Dibromochloromethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Dibromomethane	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,2-Dichlorobenzene	µg/l	5	620	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,4-Dichlorobenzene	µg/l	5	75	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,1-Dichloroethane	µg/l	5	700	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,2-Dichloroethane	µg/l	5	0.38	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,2-Dichloropropane	µg/l	5	0.56	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Ethylbenzene	µg/l	5	29	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
2-Hexanone	µg/l	50	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Iodomethane	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Styrene	µg/l	10	100	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Toluene	µg/l	5	1000	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,1,1-Trichloroethane	µg/l	5	200	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,1,2-Trichloroethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Trichlorofluoromethane	µg/l	5	2100	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
1,2,3-Trichloropropane	µg/l	15	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Vinyl acetate	µg/l	50	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Vinyl chloride	µg/l	10	0.015	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS
Xylene	µg/l	5	530	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS

Notes:
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MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
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NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (6-26-2000)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**5.9**	**6.8**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**29**	**60**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	**14**	**14**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	5	1000	**300**	**67**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	**1.6**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	5	50	**22**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	5	NE	**10**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	5	1000	**17**	**6**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	ND	**10**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	5	100	**15**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	2	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	5	NE	**40**	**6.3**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	10	2100	**37**	**12**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT

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White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (7-26-2000)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	5	1000	**330**	**30**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	**1.1**	**3.2**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	5	50	**29**	**20**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	5	NE	**9.9**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	5	1000	**12**	**6.1**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	5	100	**16**	**9.7**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	2	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	5	NE	**45**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	10	2100	**65**	**66**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.
MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (9-18-2000)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	**330**	**92**	NS	NS	NS	NT	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	ND	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	**8.8**	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NT

Notes:
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NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-9-2001)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	5.9	7.3	NS	6.4	6	6.3	6	6.1	8.2	5.8	7	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	20	60	NS	75	75	68	130	90	110	125	140	NS	NT
Temperature	°C (on-site)	-	NE	15	15	NS	13	15	15	14	15	15	15	11	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Barium (Ba)	µg/l	5	1000	1300	380	NS	180	330	120	80	290	360	970	130	NS	ND
Total Beryllium (Be)	µg/l	2	NE	2.3	7	NS	ND	ND	ND	ND	ND	2.4	4.8	ND	NS	ND
Total Cadmium (Cd)	µg/l	1	5	130	2	NS	ND	ND	ND	1.7	1.8	2.7	19	ND	NS	ND
Total Chromium (Cr)	µg/l	5	50	130	ND	NS	11	8.4	ND	ND	20	27	160	ND	NS	ND
Total Cobalt (Co)	µg/l	5	NE	54	ND	NS	ND	ND	ND	13	12	13	59	8.1	NS	ND
Total Copper (Cu)	µg/l	5	1000	77	8.4	NS	ND	ND	5.4	ND	26	38	110	ND	NS	ND
Total Lead (Pb)	µg/l	10	15	ND	59	NS	ND	ND	ND	ND	ND	18	2.5	ND	NS	ND
Total Nickel (Ni)	µg/l	5	100	76	7.2	NS	9.6	5.3	ND	ND	18	28	6.1	7.3	NS	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Thallium (Tl)	µg/l	2	NE	40	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Vanadium (V)	µg/l	5	NE	250	1.4	NS	13	19	9.3	ND	24	41	230	8	NS	ND
Total Zinc (Zn)	µg/l	10	2100	230	130	NS	12	24	18	17	33	75	200	2.9	NS	24
Acetone	µg/l	100	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Benzene	µg/l	5	1	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Bromoform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Chloroethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
2-Hexanone	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Styrene	µg/l	10	100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Toluene	µg/l	5	1000	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Xylene	µg/l	5	530	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT

Notes:

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Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (9-18-2001)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	5	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	2	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.
MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-29-2001)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	5	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	2	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**3.1**
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT

Notes:
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MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (1-30-2002)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	5	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	2	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.
MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (2-28-2002)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT

Notes:
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MDL = Laboratory Method Detection Limit
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NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-15-2002)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.01	6.42	NS	6.46	5.89	5.25	5.75	5.68	6.88	6.01	5.87	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	21	42	NS	75	82	84	101	93	94	125	109	NS	NT
Temperature	°C (on-site)	-	NE	15.9	17.4	NS	15.3	15.7	16.8	16.2	13.2	16.3	17.3	11	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Total Antimony (Sb)	µg/l	10	NE	15.0	ND	NS	ND	ND	ND	NT	ND	ND	11	ND	NS	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	ND	ND	ND	NT	ND	ND	ND	ND	NS	ND
Total Barium (Ba)	µg/l	5	1000	1300	41	NS	ND	ND	160	23	190	460	1400	110	NS	ND
Total Beryllium (Be)	µg/l	2	NE	2.1	ND	NS	ND	ND	ND	ND	ND	2.5	4.5	ND	NS	ND
Total Cadmium (Cd)	µg/l	10	5	13	ND	NS	ND	ND	ND	4	ND	5.5	19	ND	NS	ND
Total Chromium (Cr)	µg/l	5	50	170	ND	NS	ND	ND	5.7	7	10	56	180	ND	NS	ND
Total Cobalt (Co)	µg/l	5	NE	58	ND	NS	ND	ND	ND	18	8.2	21	82	6.8	NS	ND
Total Copper (Cu)	µg/l	2	1000	69	ND	NS	ND	ND	ND	ND	13	68	120	4.7	NS	150
Total Lead (Pb)	µg/l	10	15	13	ND	NS	ND	ND	ND	ND	ND	13	29	ND	NS	ND
Total Nickel (Ni)	µg/l	5	100	74	ND	NS	ND	ND	ND	6.2	9.2	44	68	6.9	NS	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Thallium (Tl)	µg/l	2	NE	40	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Vanadium (V)	µg/l	5	NE	240	ND	NS	ND	ND	11	21	14	69	260	ND	NS	ND
Total Zinc (Zn)	µg/l	10	2100	230	16	NS	ND	ND	13	33	38	120	230	52	NS	15
Acetone	µg/l	100	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Benzene	µg/l	5	1	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Bromoform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Chloroethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
2-Hexanone	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Styrene	µg/l	10	100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Toluene	µg/l	5	1000	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Xylene	µg/l	5	530	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT

Notes:
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ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (9-26-2002)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.5	7.3	7.09	6.14	6.17	6.18	5.96	5.96	7.22	6.37	5.91	6.65	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	22	59	52	71	85	82	117	101	92	130	134	97	NT
Temperature	°C (on-site)	-	NE	15.1	13.5	13.7	13.5	13.9	14	15.8	14.6	15.1	17.7	16	16.6	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	98	ND
Total Arsenic (As)	µg/l	5	50	ND	5.7	ND	ND	ND	ND	ND	ND	27	ND	ND	68	ND
Total Barium (Ba)	µg/l	5	1000	330	500	750	4200	120	230	93	410	910	1400	140	11000	ND
Total Beryllium (Be)	µg/l	2	NE	ND	7	2.1	5.1	ND	ND	ND	ND	8.5	4.7	ND	95	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	4.2	21	ND	10	ND	2.3	4.2	19	ND	180	ND
Total Chromium (Cr)	µg/l	5	50	33	5.4	33	510	ND	5.2	ND	37	36	230	ND	770	ND
Total Cobalt (Co)	µg/l	5	NE	13	5.4	16	100	ND	16	7.4	21	19	85	7.7	560	ND
Total Copper (Cu)	µg/l	2	1000	20	10	31	220	ND	ND	2.6	42	88	150	6.8	450	ND
Total Lead (Pb)	µg/l	10	15	ND	76	29	ND	ND	ND	ND	ND	150	20	ND	740	ND
Total Nickel (Ni)	µg/l	5	100	16	6.8	31	400	ND	ND	ND	27	40	78	5.6	430	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	65	ND
Total Vanadium (V)	µg/l	5	NE	58	16	44	640	ND	ND	ND	42	50	310	8.8	1000	ND
Total Zinc (Zn)	µg/l	10	2100	57	120	110	580	ND	20	ND	56	250	280	43	4800	2000
Acetone	µg/l	100	700	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzene	µg/l	5	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bromoform	µg/l	5	0.19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloroethane	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloroform	µg/l	5	0.19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dibromomethane	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethylbenzene	µg/l	5	29	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Hexanone	µg/l	50	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iodomethane	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	µg/l	10	100	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Toluene	µg/l	5	1000	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Xylene	µg/l	5	530	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

Notes:
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MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-28-2003)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	8.3	7.15	6.89	6.37	6.21	6.17	6.4	6.16	8.15	5.85	5.73	6.75	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	29	43	55	91	110	99	150	114	100	138	129	125	NT
Temperature	°C (on-site)	-	NE	16.7	15.9	15.6	15.6	16.3	15.3	13.5	14.2	17.7	14.9	13	18.4	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24	ND
Total Barium (Ba)	µg/l	5	1000	600	66	220	1800	160	140	110	92	360	800	140	2800	ND
Total Beryllium (Be)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	2	2.2	ND	20	ND
Total Cadmium (Cd)	µg/l	1	5	3.6	ND	ND	6	ND	ND	ND	ND	2.9	16	ND	20	ND
Total Chromium (Cr)	µg/l	5	50	ND	ND	ND	89	ND	ND	ND	ND	ND	110	ND	27	ND
Total Cobalt (Co)	µg/l	5	NE	21	ND	ND	37	ND	ND	6.9	ND	17	50	ND	81	ND
Total Copper (Cu)	µg/l	2	1000	24	ND	2.6	40	ND	ND	ND	ND	28	94	ND	71	ND
Total Lead (Pb)	µg/l	10	15	ND	ND	ND	ND	ND	ND	ND	ND	25	ND	ND	300	ND
Total Nickel (Ni)	µg/l	5	100	ND	ND	ND	90	ND	ND	ND	ND	ND	26	ND	70	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	1	NE	ND	ND	ND	1.6	ND	ND	ND	ND	1.4	ND	1	15	ND
Total Vanadium (V)	µg/l	5	NE	89	ND	9.6	170	6.8	6.8	ND	ND	37	230	ND	130	ND
Total Zinc (Zn)	µg/l	10	2100	86	14	31	160	16	ND	ND	ND	81	190	240	800	ND
Acetone	µg/l	100	700	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzene	µg/l	5	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bromoform	µg/l	5	0.19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloroethane	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloroform	µg/l	5	0.19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dibromomethane	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Ethylbenzene	µg/l	5	29	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Hexanone	µg/l	50	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iodomethane	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Styrene	µg/l	10	100	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Toluene	µg/l	5	1000	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Xylene	µg/l	5	530	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

Notes:

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MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

NE = Not Established; North Carolina has not established a MCL

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Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-30-2003)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.58	6.9	6.73	6.57	6.26	6.44	6.33	6.27	7.7	6.18	6.54	6.46	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	29	39	58	82	119	110	140	115	105	149	112	120	NT
Temperature	°C (on-site)	-	NE	15	15.1	14.9	15.8	15.9	16.7	15	14	17.5	16.3	14	16	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	NT	ND	ND	ND	ND	ND	ND	5.3	ND	81	ND
Total Barium (Ba)	µg/l	5	1000	320	100	NT	210	310	130	95	110	1200	270	130	4900	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	NT	ND	ND	ND	ND	ND	2.4	ND	ND	33	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	2	50	30	ND	NT	ND	6.2	ND	ND	ND	31	4.6	ND	140	ND
Total Cobalt (Co)	µg/l	5	NE	9	ND	NT	ND	ND	ND	5.7	ND	52	8.8	ND	110	ND
Total Copper (Cu)	µg/l	2	1000	18	ND	NT	ND	2.3	2.6	ND	3	85	4.4	2.9	150	ND
Total Lead (Pb)	µg/l	5	15	8.7	12	NT	ND	ND	ND	ND	ND	39	7.4	ND	640	ND
Total Nickel (Ni)	µg/l	5	100	19	ND	NT	6.9	6.9	ND	ND	ND	48	ND	7.7	190	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	54	ND	NT	6.6	16	ND	ND	ND	92	14	ND	200	ND
Total Zinc (Zn)	µg/l	10	2100	55	22	NT	17	26	10	ND	ND	140	26	64	1800	ND
Acetone	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	5	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-20-2004)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.71	6.81	6.78	5.57	5.4	5.47	5.47	5.41	7.36	5.17	6.2	6.83	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	25	31	40	67	135	120	115	100	100	115	103	70	NT
Temperature	°C (on-site)	-	NE	15.8	15.6	15.5	13.5	14.6	14.4	13.5	14.1	15.3	14.9	11.5	13.8	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.4	ND	30	ND
Total Barium (Ba)	µg/l	5	1000	320	56	120	410	460	170	140	210	62	940	150	2000	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.8	ND	8.9	ND
Total Chromium (Cr)	µg/l	2	50	33	ND	2.1	45	13	ND	ND	11	3.5	190	ND	68	ND
Total Cobalt (Co)	µg/l	5	NE	9.5	ND	ND	7.7	5.2	ND	13	6.4	ND	43	ND	50	ND
Total Copper (Cu)	µg/l	2	1000	18	ND	2.8	12	5.3	2.3	4.3	13	7.4	100	2.3	89	ND
Total Lead (Pb)	µg/l	5	15	7.2	7	5.2	6.4	5.4	ND	ND	ND	12	39	ND	250	ND
Total Nickel (Ni)	µg/l	5	100	20	ND	ND	30	7.3	ND	ND	12	5.3	49	12	110	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	5	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	55	ND	ND	45	25	ND	ND	13	5.1	240	ND	88	ND
Total Zinc (Zn)	µg/l	10	2100	55	10	ND	44	30	11	14	19	23	220	160	770	11
Acetone	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Carbon tetrachloride	µg/l	5	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Chloromethane (Methylchloride)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,4-Dichlorobenzene	µg/l	5	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1-Dichloroethane	µg/l	5	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dichloropropane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Dichloromethane (Methylene chloride)	µg/l	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
2-Butanone (Methyl ethyl ketone)	µg/l	10	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2,3-Trichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.
MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-21-2004)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.83	6.55	6.76	6.9	5.92	6.39	5.75	6.03	7.84	5.57	6.05	7.12	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	29	49	62	96	290	302	196	148	111	198	90	134	NT
Temperature	°C (on-site)	-	NE	14.3	16.7	14	13	14.7	14.3	15	14.5	14.2	14.6	15	17	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	59	ND
Total Barium (Ba)	µg/l	5	1000	320	40	200	300	310	140	140	130	12	900	110	4900	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	28	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	2	50	21	ND	2.8	16	2	ND	ND	ND	ND	120	ND	140	ND
Total Cobalt (Co)	µg/l	5	NE	6.2	ND	ND	ND	ND	ND	ND	ND	ND	31	ND	120	ND
Total Copper (Cu)	µg/l	2	1000	11	ND	ND	2	ND	ND	ND	ND	ND	63	ND	140	ND
Total Lead (Pb)	µg/l	5	15	7.2	5.6	5.7	ND	ND	ND	ND	ND	ND	24	ND	430	ND
Total Nickel (Ni)	µg/l	5	100	12	ND	ND	13	ND	ND	ND	ND	ND	35	ND	160	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	41	ND	ND	18	ND	ND	ND	ND	ND	160	ND	210	ND
Total Zinc (Zn)	µg/l	10	2100	29	ND	ND	17	ND	14	ND	12	15	70	55	1200	ND
Acetone	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	NE	ND	24	ND	ND	ND	ND	ND	ND	15	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	5	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
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NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-18-2005)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.95	7.44	6.15	6.2	5.58	6.04	6.02	6.18	7.46	5.6	5.6	6.85	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	25	40	42	78	330	161	171	139	95	149	149	138	NT
Temperature	°C (on-site)	-	NE	14.2	15.6	15	13.5	15	17.7	13	13.5	16.2	14.1	14.1	16.4	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	10	ND	ND	ND	ND	ND	5.2	ND	65	ND
Total Barium (Ba)	µg/l	5	1000	480	55	160	7200	610	180	160	140	12	1000	140	3700	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	7.2	ND	ND	ND	ND	ND	3.8	ND	26	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	2	50	49	12	8.3	680	2.9	ND	ND	3.2	ND	210	ND	100	ND
Total Cobalt (Co)	µg/l	5	NE	12	ND	ND	110	ND	ND	ND	ND	ND	36	ND	70	ND
Total Copper (Cu)	µg/l	2	1000	29	ND	ND	240	ND	ND	ND	3.8	ND	120	ND	130	ND
Total Lead (Pb)	µg/l	5	15	13	8	5.2	73	ND	ND	ND	ND	ND	39	ND	380	ND
Total Nickel (Ni)	µg/l	5	100	29	9.6	17	460	ND	ND	5.5	5.4	ND	59	ND	170	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	85	ND	ND	680	5.4	ND	ND	ND	ND	240	ND	110	ND
Total Zinc (Zn)	µg/l	10	2100	83	ND	ND	780	ND	30	13	10	ND	240	200	1200	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	5	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.
MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-13-2005)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	7.21	7.38	7.79	6.36	6.07	6.25	6.08	6.6	7.73	6.08	6.35	6.72	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	21	35	40	85	580	201	185	160	102	180	145	52	NT
Temperature	°C (on-site)	-	NE	13.2	14	13.3	13.3	14.9	14.3	16.5	15.5	15.3	16.5	16.3	16.8	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	44	ND
Total Barium (Ba)	µg/l	5	1000	770	37	160	1700	870	250	160	140	27	810	150	2700	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	3	ND	ND	ND	ND	ND	3.4	ND	21	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	2	50	52	ND	3.7	230	4.7	ND	ND	ND	ND	150	ND	88	ND
Total Cobalt (Co)	µg/l	5	NE	21	ND	ND	32	ND	ND	5.1	ND	ND	29	ND	56	ND
Total Copper (Cu)	µg/l	2	1000	31	2.6	3.5	70	ND	ND	ND	ND	3	82	ND	96	ND
Total Lead (Pb)	µg/l	5	15	14	6.9	ND	20	ND	ND	ND	ND	ND	29	ND	290	ND
Total Nickel (Ni)	µg/l	5	100	29	ND	ND	160	6.8	ND	ND	6.1	ND	46	ND	100	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	2	18	2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	82	ND	ND	210	8.9	ND	ND	ND	ND	170	ND	82	ND
Total Zinc (Zn)	µg/l	10	2100	92	13	12	230	19	25	ND	ND	14	170	81	800	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	5	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

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Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-25-2006)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.33	7.06	6.61	6.07	5.45	6.16	5.63	5.62	7.7	5.56	6.02	5.83	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	53	48	52	106	105	383	301	236	136	251	157	70	NT
Temperature	°C (on-site)	-	NE	18.1	19.2	16.1	13.7	19.5	20.6	12.4	13.8	14.6	14.8	12.2	12.9	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	42	ND
Total Barium (Ba)	µg/l	500	2000	650	ND	ND	ND	1100	ND	ND	ND	ND	750	ND	2700	ND
Total Beryllium (Be)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND	17	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	10	50	65	ND	16	ND	ND	ND	ND	ND	16	100	ND	93	ND
Total Cobalt (Co)	µg/l	10	NE	16	ND	ND	ND	ND	ND	ND	ND	ND	25	ND	57	ND
Total Copper (Cu)	µg/l	200	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Lead (Pb)	µg/l	10	15	15	ND	ND	ND	ND	ND	ND	ND	53	19	ND	300	ND
Total Nickel (Ni)	µg/l	50	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	88	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	10	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	40	NE	110	ND	ND	ND	ND	ND	ND	ND	ND	120	ND	85	ND
Total Zinc (Zn)	µg/l	50	1050	130	ND	88	ND	ND	ND	ND	ND	110	120	120	780	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	5	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	5	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	5	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	5	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-20-2006)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.47	6.81	6.51	6.74	5.56	6.14	5.87	5.74	8.2	5.61	5.96	5.97	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	229	48	53	108	876	564	149	200	12.8	330	229	33	NT
Temperature	°C (on-site)	-	NE	12.2	11.9	12.8	12.5	12.7	12.9	14.9	13.7	13.5	13.3	12.7	14.9	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13	ND
Total Barium (Ba)	µg/l	5	2000	410	22	180	470	1100	ND	ND	ND	160	ND	ND	650	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.7	ND
Total Cadmium (Cd)	µg/l	1	1.75	3.8	ND	ND	ND	ND	ND	ND	ND	1.5	ND	ND	5.2	ND
Total Chromium (Cr)	µg/l	5	50	50	ND	11	24	ND	ND	ND	ND	17	ND	ND	27	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Copper (Cu)	µg/l	5	1000	26	ND	ND	9.6	ND	ND	ND	ND	20	ND	ND	25	ND
Total Lead (Pb)	µg/l	5	15	20	ND	ND	ND	ND	ND	ND	ND	32	ND	ND	89	ND
Total Nickel (Ni)	µg/l	5	100	22	ND	8.3	25	ND	ND	ND	ND	13	ND	ND	24	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Ti)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	79	ND	ND	28	ND	ND	ND	ND	23	ND	ND	30	ND
Total Zinc (Zn)	µg/l	10	1050	74	ND	20	37	ND	ND	ND	ND	55	ND	82	200	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	5	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	5	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	5	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	10	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	5	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
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MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-25-2007)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.04	7.08	6.27	6.25	5.36	5.83	5.7	5.73	8.02	5.54	6.26	9.08	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	31	50	54	105	1540	757	391	312	134	336	238	46	NT
Temperature	°C (on-site)	-	NE	13.4	14.2	14	13	14	14.6	14	13	15.7	15.4	12	12.5	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	6	NE	ND	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	280	ND	ND	ND	ND	ND	12	ND
Total Barium (Ba)	µg/l	100	2000	290	ND	200	240	1300	1500	130	180	ND	ND	160	600	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	4.9	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	10	50	20	ND	ND	16	ND	410	ND	ND	ND	ND	ND	17	ND
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	ND	ND	260	ND	ND	ND	ND	ND	ND	ND
Total Copper (Cu)	µg/l	10	1000	15	ND	ND	ND	ND	330	ND	ND	ND	ND	ND	26	ND
Total Lead (Pb)	µg/l	10	15	ND	ND	ND	ND	ND	96	ND	ND	ND	ND	ND	69	ND
Total Nickel (Ni)	µg/l	50	100	ND	ND	ND	ND	ND	330	ND	ND	ND	ND	ND	ND	ND
Total Selenium (Se)	µg/l	10	50	12	ND	ND	ND	ND	460	ND	ND	ND	ND	ND	18	ND
Total Silver (Ag)	µg/l	10	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.5	NE	ND	ND	ND	ND	ND	35	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	25	NE	43	ND	ND	ND	ND	300	ND	ND	ND	ND	ND	26	ND
Total Zinc (Zn)	µg/l	10	1050	55	21	30	30	22	830	22	15	10	12	74	200	12
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	5	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	5	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	5	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	10	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	5	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
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White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-31-2007)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.6	6.8	6.3	6.22	5.9	6	5.5	5.9	7.99	5.5	6.2	5.9	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	28	61	45	94	1475	911	346	300	132	543	351	36	NT
Temperature	°C (on-site)	-	NE	13.8	16	16.1	14.8	17.5	17.6	17.5	17.2	14.8	15.6	12.5	17.2	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.4	ND
Total Barium (Ba)	µg/l	5	2000	501	31.5	223	198	1350	591	184	208	62.4	516	201	872	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	5	50	40.9	ND	11.9	10.9	7.8	ND	ND	ND	5.1	75.5	ND	33.7	ND
Total Cobalt (Co)	µg/l	5	NE	16.8	ND	ND	ND	10.6	ND	ND	ND	ND	ND	ND	17.6	ND
Total Copper (Cu)	µg/l	5	1000	29.2	ND	ND	ND	ND	ND	ND	ND	6.3	40.3	ND	47.4	ND
Total Lead (Pb)	µg/l	5	15	17.5	8.1	ND	ND	ND	ND	ND	ND	ND	12.3	ND	123	ND
Total Nickel (Ni)	µg/l	5	100	24	ND	8	8.4	13.8	ND	5.8	9.8	ND	20.2	ND	36.2	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.5	NE	11.6	ND	ND	ND	ND	ND	ND	ND	ND	9.5	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	89	ND	8.8	14.7	20	ND	ND	ND	8.6	103	ND	48.2	ND
Total Zinc (Zn)	µg/l	10	1050	86	ND	66.2	14	37.4	33.3	12	ND	11.6	91.1	66.9	336	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.
MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (04-23-2008)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.59	7.22	6.58	6.33	5.71	6.05	5.66	5.65	8.13	5.56	6.42	6.69	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	25	49	49	102	1546	946	411	318	124	481	402	33	NT
Temperature	°C (on-site)	-	NE	13.9	14.2	14.2	13.2	14.6	14.4	13.4	14.7	17.4	14.8	12.8	14.1	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.2	ND
Total Barium (Ba)	µg/l	5	2000	194	30.8	253	168	1230	661	216	202	61.8	151	185	361	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND
Total Chromium (Cr)	µg/l	5	50	10.7	ND	16.8	7.8	ND	ND	ND	ND	7.6	7.3	ND	14.9	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22.3	ND
Total Copper (Cu)	µg/l	5	1000	7.2	ND	ND	ND	ND	ND	ND	ND	7.2	ND	ND	17	ND
Total Lead (Pb)	µg/l	5	15	ND	ND	8.4	ND	ND	ND	ND	ND	5.8	ND	ND	50.2	ND
Total Nickel (Ni)	µg/l	5	100	7.3	ND	12.9	6.3	10.8	5.7	ND	11.3	5.3	ND	7.2	19	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	26.1	ND	11.4	9.7	10.1	ND	ND	5.1	9.7	10	ND	23.1	ND
Total Zinc (Zn)	µg/l	10	1050	27.3	ND	50.3	12.2	24.4	36.9	ND	10.3	17.5	38.8	123	138	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.
MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
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NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-20-2008)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	5.7	6.7	6.2	6.1	5.9	6.0	5.9	5.8	7.9	5.6	6.3	5.5	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	28.0	54.0	44.0	104	1420	1111	320	350.0	129.0	621.0	429	41.0	NT
Temperature	°C (on-site)	-	NE	13.8	14.2	12.0	13.2	14.3	15.4	14.9	14.6	15.2	14.5	12.7	16.5	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.6	ND
Total Barium (Ba)	µg/l	5	2000	474	66.0	313	224	1210	894	164	216	41.1	182	244	245	ND
Total Beryllium (Be)	µg/l	1	NE	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	5	50	38.6	ND	29.4	12.7	ND	ND	ND	ND	ND	ND	ND	6.8	ND
Total Cobalt (Co)	µg/l	5	NE	27.0	10.4	19.5	9.4	7.7	ND	12.6	5.3	7.1	ND	ND	18.4	ND
Total Copper (Cu)	µg/l	5	1000	26.5	ND	8.3	ND	ND	ND	ND	ND	ND	ND	ND	9.7	ND
Total Lead (Pb)	µg/l	5	15	ND	13.5	7.6	ND	ND	ND	ND	ND	ND	ND	ND	25.9	ND
Total Nickel (Ni)	µg/l	5	100	23.0	ND	21.0	11.1	10.7	7.5	ND	14.0	ND	ND	6.3	8.5	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.4	NE	7.2	ND	ND	ND	ND	ND	ND	6.1	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	79.0	ND	15.1	15.8	ND	ND	ND	ND	5.4	ND	ND	14.8	ND
Total Zinc (Zn)	µg/l	10	1050	66.5	19.9	59.2	15.3	10.6	29.1	ND	12.4	ND	17.4	86.2	71.5	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	54.4	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.

MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

NE = Not Established; North Carolina has not established a MCL

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-22-2009)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	5.64	6.89	6.32	5.83	5.74	5.92	5.75	5.72	7.56	5.47	6.03	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	28.0	53.0	12.0	131	1427	1109	398	358	131	536.0	299	NS	NT
Temperature	°C (on-site)	-	NE	13.3	13.1	47	13.4	12.8	13.1	11.7	12.1	14.4	15.1	11.3	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	5.4	ND	ND	5.6	ND	ND	ND	ND	ND	NS	ND
Total Barium (Ba)	µg/l	5	2000	126	47.2	591	309	1300	817	230	216	77.0	163	177	NS	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Chromium (Cr)	µg/l	5	50	12.3	ND	28.9	19.7	5.1	ND	ND	ND	7.3	ND	ND	NS	ND
Total Cobalt (Co)	µg/l	5	NE	5.0	6.3	17.1	8.5	5.7	ND	7.0	ND	6.4	ND	7.4	NS	ND
Total Copper (Cu)	µg/l	5	1000	5.1	ND	22.6	6.0	ND	ND	ND	ND	8.8	ND	ND	NS	ND
Total Lead (Pb)	µg/l	5	15	ND	8.7	24.4	ND	ND	ND	ND	ND	9.8	ND	ND	NS	ND
Total Nickel (Ni)	µg/l	5	100	5.6	7.2	19.7	16.7	10.9	6.0	5.1	14.0	6.0	ND	ND	NS	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Vanadium (V)	µg/l	5	NE	16.0	ND	32.7	19.8	7.7	ND	ND	ND	13.3	ND	ND	NS	ND
Total Zinc (Zn)	µg/l	10	1050	23.1	43.5	99.9	25.3	17.9	17.6	10.5	ND	35.2	ND	51.0	NS	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	ND	ND	4.5	ND	ND	NS	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.
MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-26-2009)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	5.88	6.35	6.0	5.76	5.78	5.95	NS	NS	NS	5.32	NS	5.30	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	29	50	37.0	127	1532	1120	NS	NS	NS	637	NS	39	NT
Temperature	°C (on-site)	-	NE	13.4	13.2	14.4	14.6	14.7	15.9	NS	NS	NS	14.5	NS	15.3	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NS	NS	NS	NT	NS	NS	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	6.0	ND	NS	NS	NS	ND	NS	ND	ND
Total Barium (Ba)	µg/l	5	2000	131	16.8	144	188	1720	987	NS	NS	NS	209	NS	178	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	1.7	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Total Chromium (Cr)	µg/l	5	50	10.0	ND	8.1	ND	18.7	ND	NS	NS	NS	10.9	NS	8.1	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	6.0	ND	NS	NS	NS	ND	NS	6.0	ND
Total Copper (Cu)	µg/l	5	1000	5.8	ND	ND	ND	6.4	ND	NS	NS	NS	ND	NS	7.1	ND
Total Lead (Pb)	µg/l	5	15	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	24.7	ND
Total Nickel (Ni)	µg/l	5	100	6.7	ND	5.2	6.0	18.0	7.5	NS	NS	NS	6.0	NS	8.4	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Total Vanadium (V)	µg/l	5	NE	17.9	ND	ND	5.3	33.6	ND	NS	NS	NS	12.2	NS	11.9	ND
Total Zinc (Zn)	µg/l	10	1050	19.6	ND	14.8	ND	37.8	ND	NS	NS	NS	ND	NS	63.8	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	ND

Notes:
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NT = Not Tested
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NP = Not Present during sampling event
Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-22-2010)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	6.05	6.54	6.33	6.06	5.90	5.94	NS	NS	7.04	5.50	NS	5.69	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	65	96	8.2	161	1987	1812	NS	NS	1727	659	NS	83	NT
Temperature	°C (on-site)	-	NE	13.5	13.8	13.9	13.5	13.3	13.4	NS	NS	14.9	14.6	NS	12.7	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NS	NS	NT	NT	NS	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	7.4	9.8	NS	NS	ND	ND	NS	ND	ND
Total Barium (Ba)	µg/l	5	2000	208	43.5	153	157	1920	1380	NS	NS	20.9	150	NS	74.8	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Total Chromium (Cr)	µg/l	5	50	14.3	10.9	13.1	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Total Cobalt (Co)	µg/l	5	NE	5.6	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Total Copper (Cu)	µg/l	5	1000	9.9	ND	ND	ND	ND	5.9	NS	NS	ND	ND	NS	ND	ND
Total Lead (Pb)	µg/l	5	15	ND	10.5	ND	ND	ND	ND	NS	NS	ND	ND	NS	9.2	ND
Total Nickel (Ni)	µg/l	5	100	8.6	9.6	7.6	ND	6.2	ND	NS	NS	ND	ND	NS	ND	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Total Vanadium (V)	µg/l	5	NE	27.9	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Total Zinc (Zn)	µg/l	10	1050	22.2	14.2	ND	ND	ND	ND	NS	NS	ND	ND	NS	24.6	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	ND

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, Classifications of Water Quality Standards Applicable to Groundwaters of North Carolina, Section 15A NCAC 2L.202.
MDL = Laboratory Method Detection Limit
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedance of MCLs.

APPENDIX B

SUMMARY TABLE OF SURFACE WATER ANALYTICAL RESULTS

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-24-2000)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.4**	**6.3**	**6.7**	**6.4**	NS	NS	NS	**7.8**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**65**	**65**	**59**	**65**	NS	NS	NS	**2600**	NS
Temperature	°C (on-site)	-	29	**11**	**11**	**14**	**11**	NS	NS	NS	**11**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NS	NS	NS	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NS	NS	NS	**300**	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NS	NS	NS	**95**	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	**95**	NS
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NS	NS	NS	**190**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NS	NS	NS	**670**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NS	NS	NS	**2700**	NS
Cyanide	µg/l	2	5	NT	NT	NT	NT	NS	NS	NS	**13**	NS
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	**25**	NS	NS	NS	NT	NS
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	ND	NS	NS	NS	NT	NS
Total Barium (Ba)	µg/l	500	NE	**91**	**70**	**29**	**62**	NS	NS	NS	NT	NS
Total Beryllium (Be)	µg/l	2	6.5	ND	**2**	ND	ND	NS	NS	NS	NT	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	NS	NS	NS	NT	NS
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	ND	NS	NS	NS	**13**	NS
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	**16**	NS	NS	NS	NT	NS
Total Copper (Cu)	µg/l	200	7	ND	ND	ND	ND	NS	NS	NS	NT	NS
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	ND	NS	NS	NS	NT	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	**3.8**	NS	NS	NS	NT	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	NS	NS	NS	**2**	NS
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	ND	NS	NS	NS	NT	NS
Total Zinc (Zn)	µg/l	50	50	**13**	**26**	**14**	ND	NS	NS	NS	NT	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NS	NS	NS	**0.3**	NS
Acetone	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Acrylonitrile	µg/l	200	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Benzene	µg/l	5	51	NT	NT	NT	NT	NS	NS	NS	NT	NS
Bromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Bromoform	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Carbon tetrachloride	µg/l	10	1.6	NT	NT	NT	NT	NS	NS	NS	NT	NS
Chlorobenzene (mono)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Chloroethane	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Chloroform	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Dibromomethane	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,4-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,4-Dichloro-2butene	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloropropane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Ethylbenzene	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
2-Hexanone	µg/l	50	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Iodomethane	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Dichloromethane (Methylene chloride)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Styrene	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1,2,2-Tetrachloroethane	µg/l	5	4	NT	NT	NT	NT	NS	NS	NS	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	3.3	NT	NT	NT	NT	NS	NS	NS	NT	NS
Toluene	µg/l	5	0.36	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1-Trichloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Trichloroethene (-ethylene)	µg/l	5	30	NT	NT	NT	NT	NS	NS	NS	NT	NS
Trichlorofluoromethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Vinyl chloride	µg/l	10	2.4	NT	NT	NT	NT	NS	NS	NS	NT	NS
Xylene	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-9-2001)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**7**	**7.1**	**7.1**	NS	NS	NS	**8.1**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**73**	**80**	**75**	NS	NS	NS	**3600**	NS
Temperature	°C (on-site)	-	29	**11**	**13**	**18**	NS	NS	NS	**15**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NS	NS	NS	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NS	NS	NS	NT	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NS	NS	NS	ND	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NS	NS	NS	NT	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NS	NS	NS	**120**	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NS	NS	NS	**120**	NS
Sulfate	mg/l	500	NE	NT	NT	NT	NS	NS	NS	NT	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NS	NS	NS	**240**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NS	NS	NS	**430**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NS	NS	NS	**5000**	NS
Cyanide	µg/l	2	5	NT	NT	NT	NS	NS	NS	ND	NS
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	NS	NS	NS	NT	NS
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	NS	NS	NS	NT	NS
Total Barium (Ba)	µg/l	500	NE	**99**	**81**	**55**	NS	NS	NS	NT	NS
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	NS	NS	NS	NT	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	NS	NS	NS	NT	NS
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	NS	NS	NS	**10**	NS
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	NS	NS	NS	NT	NS
Total Copper (Cu)	µg/l	200	7	ND	ND	ND	NS	NS	NS	NT	NS
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	NS	NS	NS	ND	NS
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	NS	NS	NS	NT	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	NS	NS	NS	**210**	NS
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	NS	NS	NS	NT	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	NS	NS	NS	ND	NS
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	NS	NS	NS	NT	NS
Total Zinc (Zn)	µg/l	50	50	**15**	**31**	**20**	NS	NS	NS	NT	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	NS	NS	NS	ND	NS
Acetone	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
Acrylonitrile	µg/l	200	NE	NT	NT	NT	NS	NS	NS	NT	NS
Benzene	µg/l	5	51	NT	NT	NT	NS	NS	NS	NT	NS
Bromochloromethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Bromoform	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Carbon tetrachloride	µg/l	10	1.6	NT	NT	NT	NS	NS	NS	NT	NS
Chlorobenzene (mono)	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Chloroethane	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Chloroform	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Dibromomethane	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,4-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,4-Dichloro-2butene	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloropropane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Ethylbenzene	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
2-Hexanone	µg/l	50	NE	NT	NT	NT	NS	NS	NS	NT	NS
Iodomethane	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Dichloromethane (Methylene chloride)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
Styrene	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1,2,2-Tetrachloroethane	µg/l	5	4	NT	NT	NT	NS	NS	NS	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	3.3	NT	NT	NT	NS	NS	NS	NT	NS
Toluene	µg/l	5	0.36	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1-Trichloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Trichloroethene (-ethylene)	µg/l	5	30	NT	NT	NT	NS	NS	NS	NT	NS
Trichlorofluoromethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NT	NS	NS	NS	NT	NS
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NS	NS	NS	NT	NS
Vinyl chloride	µg/l	10	2.4	NT	NT	NT	NS	NS	NS	NT	NS
Xylene	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (9-18-2001)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	NS	NS	NS	**7.48**	NS	NS	NS	**6.02**
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	**160**	NS	NS	NS	**120**
Temperature	°C (on-site)	-	29	NS	NS	NS	**20**	NS	NS	NS	**19**
Turbidity	NTU (on-site)	0.1	50	NS	NS	NS	NT	NS	NS	NS	NT
Nitrate as N	mg/l	0.1	NE	NS	NS	NS	NT	NS	NS	NS	NT
Nitrate/Nitrite as N	mg/l	0.1	NE	NS	NS	NS	NT	NS	NS	NS	NT
Nitrite as N	mg/l	0.1	NE	NS	NS	NS	NT	NS	NS	NS	NT
Nitrogen	mg/l	0.2	NE	NS	NS	NS	NT	NS	NS	NS	NT
Total Nitrogen, Kjeldahl	mg/l	100	NE	NS	NS	NS	NT	NS	NS	NS	NT
Sulfate	mg/l	500	NE	NS	NS	NS	NT	NS	NS	NS	NT
Biochemical Oxygen Demand	mg/l	2	NE	NS	NS	NS	NT	NS	NS	NS	NT
Chemical Oxygen Demand	mg/l	25	NE	NS	NS	NS	NT	NS	NS	NS	NT
Total Dissolved Solids	mg/l	20	NE	NS	NS	NS	NT	NS	NS	NS	NT
Cyanide	µg/l	2	5	NS	NS	NS	NT	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	ND	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	10	NS	NS	NS	ND	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	NE	NS	NS	NS	**71**	NS	NS	NS	**110**
Total Beryllium (Be)	µg/l	2	6.5	NS	NS	NS	ND	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	0.4	NS	NS	NS	ND	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	ND	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	**7.2**	NS	NS	NS	**13**
Total Copper (Cu)	µg/l	200	7	NS	NS	NS	ND	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	25	NS	NS	NS	ND	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	88	NS	NS	NS	**9.4**	NS	NS	NS	**8.1**
Total Selenium (Se)	µg/l	20	5	NS	NS	NS	ND	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	0.06	NS	NS	NS	ND	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	10	NE	NS	NS	NS	ND	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	ND	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	50	NS	NS	NS	**11**	NS	NS	NS	**35**
Mercury	µg/l	0.2	0.012	NS	NS	NS	NT	NS	NS	NS	NT
Acetone	µg/l	100	NE	NS	NS	NS	NT	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NS	NS	NS	NT
Benzene	µg/l	5	51	NS	NS	NS	NT	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
Bromoform	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	1.6	NS	NS	NS	NT	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NS	NS	NS	NT
Chloroform	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
trans-1,4-Dichloro-2butene	µg/l	100	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NS	NS	NS	NT
Ethylbenzene	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	NE	NS	NS	NS	NT	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	NS	NS	NS	NT	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NS	NS	NS	NT
Styrene	µg/l	10	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	4	NS	NS	NS	NT	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	3.3	NS	NS	NS	NT	NS	NS	NS	NT
Toluene	µg/l	5	0.36	NS	NS	NS	NT	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	30	NS	NS	NS	NT	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NS	NS	NS	NT
Vinyl chloride	µg/l	10	2.4	NS	NS	NS	NT	NS	NS	NS	NT
Xylene	µg/l	5	NE	NS	NS	NS	NT	NS	NS	NS	NT

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-15-2002)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.67**	**6.08**	**6.46**	**7**	NS	NS	**6.71**	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**78**	**78**	**80**	**170**	NS	NS	**265**	NT
Temperature	°C (on-site)	-	29	**17.8**	**13.3**	**19.4**	**20**	NS	NS	**20.1**	NT
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NS	NS	NT	NT
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NS	NS	NT	NT
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NS	NS	**0.3**	NT
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NS	NS	NT	NT
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NS	NS	**96**	NT
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NS	NS	**96**	NT
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NS	NS	NT	NT
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NS	NS	**740**	NT
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NS	NS	**1400**	NT
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NS	NS	**2300**	NT
Cyanide	µg/l	2	5	NT	NT	NT	NT	NS	NS	**0.006**	NT
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	ND	NS	NS	NT	NT
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	ND	NS	NS	NT	NT
Total Barium (Ba)	µg/l	500	NE	**92**	**91**	**40**	**140**	NS	NS	NT	NT
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	ND	NS	NS	NT	NT
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	NS	NS	NT	NT
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	ND	NS	NS	**34**	NT
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	**7.7**	NS	NS	NT	NT
Total Copper (Cu)	µg/l	200	7	ND	ND	ND	ND	NS	NS	NT	NT
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	ND	NS	NS	ND	NT
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	**9**	NS	NS	NT	NT
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	ND	NS	NS	ND	NT
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	ND	NS	NS	NT	NT
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	NS	NS	ND	NT
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	**6.5**	NS	NS	NT	NT
Total Zinc (Zn)	µg/l	50	50	ND	**37**	**32**	**60**	NS	NS	NT	NT
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NS	NS	ND	NT
Acetone	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NT	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NT	NT	NS	NS	NT	NT
Benzene	µg/l	5	51	NT	NT	NT	NT	NS	NS	NT	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
Bromoform	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NT	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NT	NT
Carbon tetrachloride	µg/l	10	1.6	NT	NT	NT	NT	NS	NS	NT	NT
Chlorobenzene (mono)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
Chloroethane	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NT	NT
Chloroform	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NT	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
Dibromomethane	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,2-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,4-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
trans-1,4-Dichloro-2butene	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,1-Dichloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,2-Dichloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,2-Dichloropropane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NT	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NT	NT
Ethylbenzene	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
2-Hexanone	µg/l	50	NE	NT	NT	NT	NT	NS	NS	NT	NT
Iodomethane	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NT	NT
Dichloromethane (Methylene chloride)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NT	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NT	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NT	NT
Styrene	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,1,2,2-Tetrachloroethane	µg/l	5	4	NT	NT	NT	NT	NS	NS	NT	NT
Tetrachloroethene (-ethylene)	µg/l	5	3.3	NT	NT	NT	NT	NS	NS	NT	NT
Toluene	µg/l	5	0.36	NT	NT	NT	NT	NS	NS	NT	NT
1,1,1-Trichloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
Trichloroethene (-ethylene)	µg/l	5	30	NT	NT	NT	NT	NS	NS	NT	NT
Trichlorofluoromethane	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NT	NT	NS	NS	NT	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NT	NS	NS	NT	NT
Vinyl chloride	µg/l	10	2.4	NT	NT	NT	NT	NS	NS	NT	NT
Xylene	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NT	NT

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (9-26-2002)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.9**	**6.88**	**7.01**	NS	NS	NS	**7.48**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**102**	**151**	**115**	NS	NS	NS	**3700**	NS
Temperature	°C (on-site)	-	29	**16.5**	**17.2**	**17.5**	NS	NS	NS	**18.4**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NS	NS	NS	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NS	NS	NS	NT	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NS	NS	NS	ND	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NS	NS	NS	NT	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NS	NS	NS	ND	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NS	NS	NS	**130**	NS
Sulfate	mg/l	500	NE	NT	NT	NT	NS	NS	NS	NT	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NS	NS	NS	**210**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NS	NS	NS	**1300**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NS	NS	NS	**3000**	NS
Cyanide	µg/l	2	5	NT	NT	NT	NS	NS	NS	**2.5**	NS
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	NS	NS	NS	NT	NS
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	NS	NS	NS	NT	NS
Total Barium (Ba)	µg/l	500	NE	**150**	**160**	**80**	NS	NS	NS	NT	NS
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	NS	NS	NS	NT	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	NS	NS	NS	NT	NS
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	NS	NS	NS	**34**	NS
Total Cobalt (Co)	µg/l	10	NE	**7.2**	ND	ND	NS	NS	NS	NT	NS
Total Copper (Cu)	µg/l	200	7	ND	**4.5**	**2.7**	NS	NS	NS	NT	NS
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	NS	NS	NS	ND	NS
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	NS	NS	NS	NT	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	NS	NS	NS	ND	NS
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	NS	NS	NS	NT	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	NS	NS	NS	ND	NS
Total Vanadium (V)	µg/l	40	NE	ND	**6.4**	ND	NS	NS	NS	NT	NS
Total Zinc (Zn)	µg/l	50	50	**19**	**100**	**41**	NS	NS	NS	NT	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	NS	NS	NS	ND	NS
Acetone	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
Acrylonitrile	µg/l	200	NE	NT	NT	NT	NS	NS	NS	NT	NS
Benzene	µg/l	5	51	NT	NT	NT	NS	NS	NS	NT	NS
Bromochloromethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Bromoform	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Carbon tetrachloride	µg/l	10	1.6	NT	NT	NT	NS	NS	NS	NT	NS
Chlorobenzene (mono)	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Chloroethane	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Chloroform	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Dibromomethane	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,4-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,4-Dichloro-2butene	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloropropane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Ethylbenzene	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
2-Hexanone	µg/l	50	NE	NT	NT	NT	NS	NS	NS	NT	NS
Iodomethane	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
Dichloromethane (Methylene chloride)	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NT	NS	NS	NS	NT	NS
Styrene	µg/l	10	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1,2,2-Tetrachloroethane	µg/l	5	4	NT	NT	NT	NS	NS	NS	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	3.3	NT	NT	NT	NS	NS	NS	NT	NS
Toluene	µg/l	5	0.36	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1-Trichloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
Trichloroethene (-ethylene)	µg/l	5	30	NT	NT	NT	NS	NS	NS	NT	NS
Trichlorofluoromethane	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NT	NS	NS	NS	NT	NS
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NS	NS	NS	NT	NS
Vinyl chloride	µg/l	10	2.4	NT	NT	NT	NS	NS	NS	NT	NS
Xylene	µg/l	5	NE	NT	NT	NT	NS	NS	NS	NT	NS

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
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NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-29-2003)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.91**	**6.42**	**7.17**	NS	**6.41**	**6.71**	NT	**7.05**
Specific Conductance	µmhos/cm (on-site)	1	NE	**77**	**75**	**101**	NS	**19**	**29**	NT	**130**
Temperature	°C (on-site)	-	29	**11.8**	**13**	**16**	NS	**15.6**	**14.9**	NT	**23**
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NS	NT	NT	NT	NT
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NS	NT	NT	NT	NT
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NS	NT	NT	ND	NT
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NS	NT	NT	NT	NT
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NS	NT	NT	**220**	NT
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NS	NT	NT	**220**	NT
Sulfate	mg/l	500	NE	NT	NT	NT	NS	NT	NT	NT	NT
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NS	NT	NT	**2500**	NT
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NS	NT	NT	**1100**	NT
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NS	NT	NT	**120**	NT
Cyanide	µg/l	2	5	NT	NT	NT	NS	NT	NT	**110**	NT
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	NS	ND	ND	ND	ND
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	NS	ND	ND	**15**	ND
Total Barium (Ba)	µg/l	500	NE	**90**	**82**	**64**	NS	**27**	**27**	**270**	**92**
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	NS	ND	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	NS	ND	ND	**2.5**	ND
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	NS	ND	ND	ND	ND
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	NS	ND	ND	**16**	ND
Total Copper (Cu)	µg/l	200	7	ND	ND	ND	NS	ND	ND	ND	ND
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	NS	ND	ND	ND	ND
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	NS	ND	ND	ND	ND
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	NS	ND	ND	ND	ND
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	NS	ND	ND	**2.4**	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	NS	ND	ND	ND	ND
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	NS	ND	ND	**19**	ND
Total Zinc (Zn)	µg/l	50	50	ND	**45**	**20**	NS	ND	ND	**1000**	ND
Mercury	µg/l	0.2	0.012	NT	NT	NT	NS	NT	NT	NT	NT
Acetone	µg/l	100	NE	NT	NT	NT	NS	NT	NT	NT	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NT	NS	NT	NT	NT	NT
Benzene	µg/l	5	51	NT	NT	NT	NS	NT	NT	NT	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
Bromoform	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NS	NT	NT	NT	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NT	NS	NT	NT	NT	NT
Carbon tetrachloride	µg/l	10	1.6	NT	NT	NT	NS	NT	NT	NT	NT
Chlorobenzene (mono)	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
Chloroethane	µg/l	10	NE	NT	NT	NT	NS	NT	NT	NT	NT
Chloroform	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NT	NS	NT	NT	NT	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
Dibromomethane	µg/l	10	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,2-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,4-Dichlorobenzene	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
trans-1,4-Dichloro-2butene	µg/l	100	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,1-Dichloroethane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,2-Dichloroethane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,2-Dichloropropane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NS	NT	NT	NT	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NS	NT	NT	NT	NT
Ethylbenzene	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
2-Hexanone	µg/l	50	NE	NT	NT	NT	NS	NT	NT	NT	NT
Iodomethane	µg/l	10	NE	NT	NT	NT	NS	NT	NT	NT	NT
Dichloromethane (Methylene chloride)	µg/l	10	NE	NT	NT	NT	NS	NT	NT	NT	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	NT	NT	NT	NS	NT	NT	NT	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NT	NS	NT	NT	NT	NT
Styrene	µg/l	10	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,1,2,2-Tetrachloroethane	µg/l	5	4	NT	NT	NT	NS	NT	NT	NT	NT
Tetrachloroethene (-ethylene)	µg/l	5	3.3	NT	NT	NT	NS	NT	NT	NT	NT
Toluene	µg/l	5	0.36	NT	NT	NT	NS	NT	NT	NT	NT
1,1,1-Trichloroethane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
Trichloroethene (-ethylene)	µg/l	5	30	NT	NT	NT	NS	NT	NT	NT	NT
Trichlorofluoromethane	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NT	NS	NT	NT	NT	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NS	NT	NT	NT	NT
Vinyl chloride	µg/l	10	2.4	NT	NT	NT	NS	NT	NT	NT	NT
Xylene	µg/l	5	NE	NT	NT	NT	NS	NT	NT	NT	NT

Notes:
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ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (10-30-2003)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**7.41**	**7.38**	**7.42**	NS	**5.87**	**7.14**	**8.37**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**80**	**80**	**80**	NS	**19**	**29**	**3500**	NS
Temperature	°C (on-site)	-	29	**12**	**12**	**12**	NS	**14.2**	**15.1**	**19.3**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NS	NT	NT	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NS	NT	NT	**3.4**	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NS	NT	NT	**3.4**	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NS	NT	NT	NT	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NS	NT	NT	**72**	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NS	NT	NT	**69**	NS
Sulfate	mg/l	500	NE	NT	NT	NT	NS	NT	NT	NT	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NS	NT	NT	ND	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NS	NT	NT	**250**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NS	NT	NT	**2500**	NS
Cyanide	µg/l	2	5	NT	NT	NT	NS	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	NS	ND	ND	NT	NS
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	NS	**5.5**	ND	NT	NS
Total Barium (Ba)	µg/l	500	NE	**110**	**130**	**84**	NS	**24**	**27**	NT	NS
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	NS	ND	ND	NT	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	NS	ND	ND	NT	NS
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	NS	ND	ND	**10**	NS
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
Total Copper (Cu)	µg/l	200	7	ND	**2.7**	**2.2**	NS	**2.2**	ND	NT	NS
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	NS	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	NS	ND	ND	NT	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	NS	ND	ND	ND	NS
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	NS	ND	ND	NT	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	NS	ND	ND	ND	NS
Total Vanadium (V)	µg/l	40	NE	ND	**5.3**	ND	NS	ND	ND	NT	NS
Total Zinc (Zn)	µg/l	50	50	ND	**80**	**40**	NS	**14**	ND	NT	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	NS	NT	NT	ND	NS
Acetone	µg/l	100	NE	ND	ND	ND	NS	ND	ND	NT	NS
Acrylonitrile	µg/l	200	NE	ND	ND	ND	NS	ND	ND	NT	NS
Benzene	µg/l	5	51	ND	ND	ND	NS	ND	ND	NT	NS
Bromochloromethane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
Bromoform	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
Carbon Disulfide	µg/l	100	NE	ND	ND	ND	NS	ND	**11**	NT	NS
Bromomethane (Methylbromide)	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
Carbon tetrachloride	µg/l	10	1.6	ND	ND	ND	NS	ND	ND	NT	NS
Chlorobenzene (mono)	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
Chloroethane	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
Chloroform	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
Chloromethane (Methylchloride)	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
Dibromomethane	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,2-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,4-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
trans-1,4-Dichloro-2butene	µg/l	100	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,1-Dichloroethane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,2-Dichloroethane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,2-Dichloropropane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
Ethylbenzene	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
2-Hexanone	µg/l	50	NE	ND	ND	ND	NS	ND	ND	NT	NS
Iodomethane	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
Dichloromethane (Methylene chloride)	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	ND	ND	ND	NS	ND	ND	NT	NS
4-Methyl-2-Pentanone	µg/l	100	NE	ND	ND	ND	NS	ND	ND	NT	NS
Styrene	µg/l	10	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,1,2,2-Tetrachloroethane	µg/l	5	4	ND	ND	ND	NS	ND	ND	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	3.3	ND	ND	ND	NS	ND	ND	NT	NS
Toluene	µg/l	5	0.36	ND	ND	ND	NS	ND	ND	NT	NS
1,1,1-Trichloroethane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
Trichloroethene (-ethylene)	µg/l	5	30	ND	ND	ND	NS	ND	ND	NT	NS
Trichlorofluoromethane	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS
1,2,3-Trichloropropane	µg/l	15	NE	ND	ND	ND	NS	ND	ND	NT	NS
Vinyl acetate	µg/l	50	NE	ND	ND	ND	NS	ND	ND	NT	NS
Vinyl chloride	µg/l	10	2.4	ND	ND	ND	NS	ND	ND	NT	NS
Xylene	µg/l	5	NE	ND	ND	ND	NS	ND	ND	NT	NS

Notes:
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NS = Not Sampled
NT = Not Tested
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NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-20-2004)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.8**	**7.05**	**7.19**	**8.05**	**6.19**	**6.35**	**8.37**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**74**	**73**	**142**	**1790**	**19**	**29**	**4050**	NS
Temperature	°C (on-site)	-	29	**13**	**13**	**15**	**17**	**17**	**16**	**28.4**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.11**	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.11**	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NT	NT	NT	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NS
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**640**	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**470**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NT	NT	**1100**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	ND	ND	ND	**16**	NS
Total Barium (Ba)	µg/l	500	NE	**120**	**95**	**83**	**260**	**18**	**26**	**140**	NS
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	ND	ND	ND	ND	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	NS
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	ND	ND	ND	**28**	NS
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	**26**	ND	ND	**17**	NS
Total Copper (Cu)	µg/l	200	7	ND	ND	**3.1**	ND	ND	ND	ND	NS
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	ND	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	**12**	ND	ND	**45**	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	**6**	ND	ND	**8**	NS
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	ND	ND	ND	ND	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	ND	ND	ND	**12**	NS
Total Zinc (Zn)	µg/l	50	50	ND	**48**	**31**	**310**	**15**	ND	**62**	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	ND	NT	NT	ND	NS
Acetone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	**490**	NS
Acrylonitrile	µg/l	200	NE	ND	ND	ND	ND	ND	ND	ND	NS
Benzene	µg/l	5	51	ND	ND	ND	ND	ND	ND	ND	NS
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromoform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon Disulfide	µg/l	100	NE	ND	ND	ND	ND	ND	ND	**14**	NS
Bromomethane (Methylbromide)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon tetrachloride	µg/l	10	1.6	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloromethane (Methylchloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,4-Dichloro-2butene	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Hexanone	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	NS
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dichloromethane (Methylene chloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	ND	ND	ND	ND	ND	ND	**300**	NS
4-Methyl-2-Pentanone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
Styrene	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2,2-Tetrachloroethane	µg/l	5	4	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	5	3.3	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	5	0.36	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Trichloroethene (-ethylene)	µg/l	5	30	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2,3-Trichloropropane	µg/l	15	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl acetate	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl chloride	µg/l	10	2.4	ND	ND	ND	ND	ND	ND	ND	NS
Xylene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (10-21-2004)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**7.06**	**6.62**	NS	**7.16**	**7.42**	**6.41**	**7.89**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**103**	**103**	NS	**129**	**26**	**38**	**3270**	NS
Temperature	°C (on-site)	-	29	**14**	**14.5**	NS	**15**	**15**	**16**	**23.4**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NS	NT	NT	NT	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NS	NT	NT	NT	ND	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NS	NT	NT	NT	ND	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NS	NT	NT	NT	NT	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NS	NT	NT	NT	NT	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NS
Sulfate	mg/l	500	NE	NT	NT	NS	NT	NT	NT	**34**	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NS	NT	NT	NT	**640**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NS	NT	NT	NT	**1300**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NS	NT	NT	NT	NT	NS
Cyanide	µg/l	2	5	NT	NT	NS	NT	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	30	NE	ND	ND	NS	ND	ND	ND	ND	NS
Total Arsenic (As)	µg/l	10	10	ND	ND	NS	ND	ND	ND	**10**	NS
Total Barium (Ba)	µg/l	500	NE	**100**	**100**	NS	**87**	**24**	**31**	**160**	NS
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	NS	ND	**2.6**	ND	ND	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	NS	ND	**2.1**	ND	ND	NS
Total Chromium (Cr)	µg/l	10	50	ND	ND	NS	ND	**3.7**	**2.3**	**26**	NS
Total Cobalt (Co)	µg/l	10	NE	ND	ND	NS	**6.5**	ND	ND	ND	NS
Total Copper (Cu)	µg/l	200	7	ND	ND	NS	ND	ND	ND	ND	NS
Total Lead (Pb)	µg/l	10	25	ND	ND	NS	ND	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	50	88	ND	ND	NS	ND	ND	ND	**24**	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	NS	ND	ND	ND	**6.2**	NS
Total Silver (Ag)	µg/l	10	0.06	ND	ND	NS	ND	ND	ND	ND	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
Total Vanadium (V)	µg/l	40	NE	ND	ND	NS	ND	ND	ND	**8.2**	NS
Total Zinc (Zn)	µg/l	50	50	ND	**44**	NS	**17**	**12**	**13**	**43**	NS
Mercury	µg/l	0.2	0.012	NT	NT	NS	NT	NT	NT	NT	NS
Acetone	µg/l	100	NE	ND	ND	NS	ND	ND	ND	**290**	NS
Acrylonitrile	µg/l	200	NE	ND	ND	NS	ND	ND	ND	ND	NS
Benzene	µg/l	5	51	ND	ND	NS	ND	ND	ND	ND	NS
Bromochloromethane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
Bromodichloromethane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
Bromoform	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
Carbon Disulfide	µg/l	100	NE	ND	ND	NS	ND	**39**	**32**	ND	NS
Bromomethane (Methylbromide)	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
Carbon tetrachloride	µg/l	10	1.6	ND	ND	NS	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
Chloroethane	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
Chloroform	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
Chloromethane (Methylchloride)	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
Dibromochloromethane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
Dibromomethane	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,2-Dichlorobenzene	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
trans-1,4-Dichloro-2butene	µg/l	100	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,1-Dichloroethane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
Ethylbenzene	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
2-Hexanone	µg/l	50	NE	ND	ND	NS	ND	ND	ND	ND	NS
Iodomethane	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
Dichloromethane (Methylene chloride)	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	ND	ND	NS	ND	ND	ND	**260**	NS
4-Methyl-2-Pentanone	µg/l	100	NE	ND	ND	NS	ND	ND	ND	ND	NS
Styrene	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,1,2,2-Tetrachloroethane	µg/l	5	4	ND	ND	NS	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	5	3.3	ND	ND	NS	ND	ND	ND	ND	NS
Toluene	µg/l	5	0.36	ND	ND	NS	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
Trichloroethene (-ethylene)	µg/l	5	30	ND	ND	NS	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS
1,2,3-Trichloropropane	µg/l	15	NE	ND	ND	NS	ND	ND	ND	ND	NS
Vinyl acetate	µg/l	50	NE	ND	ND	NS	ND	ND	ND	ND	NS
Vinyl chloride	µg/l	10	2.4	ND	ND	NS	ND	ND	ND	ND	NS
Xylene	µg/l	5	NE	ND	ND	NS	ND	ND	ND	ND	NS

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-18-2005)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.49**	**5.99**	**6.21**	**7.05**	**7.08**	**7.27**	**7.28**	**6.26**
Specific Conductance	µmhos/cm (on-site)	1	NE	**79**	**88**	**151**	**120**	**21**	**28**	**6500**	**172**
Temperature	°C (on-site)	-	29	**13**	**123**	**13.5**	**16**	**14.1**	**13**	**19**	**21**
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	NT
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NT
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NT
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NT	NT	NT	NT
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**1300**	NT
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**300**	NT
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NT	NT	**760**	NT
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NT
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	ND	ND	ND	**22**	ND
Total Barium (Ba)	µg/l	500	NE	**100**	**120**	**98**	**79**	**24**	**28**	**390**	**83**
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	ND	ND	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	ND	ND	ND	**31**	ND
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	**14**	ND
Total Copper (Cu)	µg/l	200	7	ND	ND	ND	ND	ND	ND	ND	ND
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	ND	ND	ND	ND	ND
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	ND	ND	ND	**50**	ND
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	ND	ND	ND	**7.4**	ND
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	ND	ND	ND	**17**	ND
Total Zinc (Zn)	µg/l	50	50	ND	**50**	**22**	**34**	ND	ND	**150**	ND
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NT	NT	NT	NT
Acetone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	**240**	ND
Acrylonitrile	µg/l	200	NE	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	51	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	10	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2butene	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**11**	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**11**	ND
2-Hexanone	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	ND	ND	ND	ND	ND	ND	**410**	ND
4-Methyl-2-Pentanone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	**40**	ND
Styrene	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	4	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	0.36	ND	ND	ND	ND	ND	ND	**63**	ND
1,1,1-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	30	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	15	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	10	2.4	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**43**	ND

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (10-13-2005)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**7.11**	**6.72**	**7.18**	**6.28**	**6.76**	**8.13**	**8.01**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**89**	**90**	**240**	**340**	**91**	**31**	**6500**	NS
Temperature	°C (on-site)	-	29	**15.7**	**16.9**	**16.9**	**18.9**	**18.7**	**15.2**	**21.1**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NT	NT	NT	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NS
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**1300**	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**720**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NT	NT	**920**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	30	NE	NT	NT	NT	ND	NT	NT	NT	NS
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	ND	ND	ND	**16**	NS
Total Barium (Ba)	µg/l	500	NE	**120**	**96**	**140**	**90**	**86**	**36**	**430**	NS
Total Beryllium (Be)	µg/l	2	6.5	NT	NT	NT	ND	NT	NT	NT	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	NS
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	**4.2**	ND	ND	**50**	NS
Total Cobalt (Co)	µg/l	10	NE	NT	NT	NT	**6.8**	NT	NT	NT	NS
Total Copper (Cu)	µg/l	200	7	NT	NT	NT	**2.4**	NT	NT	NT	NS
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	ND	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	50	88	NT	NT	NT	ND	NT	NT	NT	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	ND	ND	ND	**9.2**	NS
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	ND	ND	ND	ND	NS
Total Thallium (Tl)	µg/l	10	NE	NT	NT	NT	ND	NT	NT	NT	NS
Total Vanadium (V)	µg/l	40	NE	NT	NT	NT	ND	NT	NT	NT	NS
Total Zinc (Zn)	µg/l	50	50	NT	NT	NT	**33**	NT	NT	NT	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NT	NT	ND	NS
Acetone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
Acrylonitrile	µg/l	200	NE	ND	ND	ND	ND	ND	ND	ND	NS
Benzene	µg/l	5	51	ND	ND	ND	ND	ND	ND	ND	NS
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromoform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon Disulfide	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromomethane (Methylbromide)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon tetrachloride	µg/l	10	1.6	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloromethane (Methylchloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,4-Dichloro-2butene	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Hexanone	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	NS
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dichloromethane (Methylene chloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
4-Methyl-2-Pentanone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
Styrene	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2,2-Tetrachloroethane	µg/l	5	4	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	5	3.3	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	5	0.36	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Trichloroethene (-ethylene)	µg/l	5	30	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2,3-Trichloropropane	µg/l	15	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl acetate	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl chloride	µg/l	10	2.4	ND	ND	ND	ND	ND	ND	ND	NS
Xylene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-25-2006)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**7.07**	**7.11**	**7.18**	**6.73**	**6.45**	**6.28**	**7.55**	**6.81**
Specific Conductance	µmhos/cm (on-site)	1	NE	**107**	**138**	**340**	**201**	**45**	**53**	**8660**	**216**
Temperature	°C (on-site)	-	29	**14.1**	**13.8**	**15.6**	**18.6**	**14.8**	**14.3**	**17.1**	**20.4**
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	NT
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**2.4**	NT
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**2.4**	NT
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NT	NT	NT	NT
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**2400**	NT
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**51**	NT
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NT	NT	**700**	NT
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NT
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	ND	ND	ND	**18**	ND
Total Barium (Ba)	µg/l	500	NE	ND	ND	ND	ND	ND	ND	**580**	ND
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	ND	ND	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	ND	ND	ND	**40**	ND
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	**15**	ND
Total Copper (Cu)	µg/l	200	7	ND	ND	ND	ND	ND	ND	ND	ND
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	**11**	ND	ND	ND	ND
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	ND	ND	ND	**56**	ND
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Zinc (Zn)	µg/l	50	50	ND	ND	ND	ND	ND	ND	**130**	ND
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NT	NT	NT	NT
Acetone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	200	NE	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	51	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	10	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2butene	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**6.2**	ND
2-Hexanone	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	ND	ND	ND	ND	ND	ND	**24**	ND
4-Methyl-2-Pentanone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	**15**	ND
Styrene	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	4	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	0.36	ND	ND	ND	ND	ND	ND	**12**	ND
1,1,1-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	30	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	15	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	10	2.4	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**16.1**	ND

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ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (10-16-2006)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**7.53**	**7.1**	NT	**7.14**	**6.64**	**7.13**	**8.11**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**123**	**139**	NT	**200**	**46**	**40**	**9800**	NS
Temperature	°C (on-site)	-	29	**11.9**	**10.9**	NT	**11.9**	**13.4**	**11.3**	**19.6**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.58**	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NT	NT	NT	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NS
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**2100**	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**61**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NT	NT	**780**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	ND	ND	ND	**18**	NS
Total Barium (Ba)	µg/l	500	NE	**120**	**140**	**120**	**240**	**54**	**33**	**430**	NS
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	ND	ND	ND	ND	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	**5.8**	ND	ND	ND	NS
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	**21**	ND	ND	**54**	NS
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	ND	**7.4**	ND	**14**	NS
Total Copper (Cu)	µg/l	200	7	ND	ND	ND	**23**	ND	ND	ND	NS
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	**18**	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	**8.4**	ND	ND	**68**	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	ND	ND	ND	ND	NS
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	ND	ND	ND	ND	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	**62**	ND	ND	**18**	NS
Total Zinc (Zn)	µg/l	50	50	ND	**39**	**22**	**130**	ND	ND	**63**	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NT	NT	NT	NS
Acetone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
Acrylonitrile	µg/l	200	NE	ND	ND	ND	ND	ND	ND	ND	NS
Benzene	µg/l	5	51	ND	ND	ND	ND	ND	ND	ND	NS
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromoform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon Disulfide	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromomethane (Methylbromide)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon tetrachloride	µg/l	10	1.6	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloromethane (Methylchloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,4-Dichloro-2butene	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Hexanone	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	NS
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dichloromethane (Methylene chloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
4-Methyl-2-Pentanone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	NS
Styrene	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2,2-Tetrachloroethane	µg/l	5	4	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	5	3.3	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	5	0.36	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Trichloroethene (-ethylene)	µg/l	5	30	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2,3-Trichloropropane	µg/l	15	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl acetate	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl chloride	µg/l	10	2.4	ND	ND	ND	ND	ND	ND	ND	NS
Xylene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.
ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-23-2007)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	NT	NT	NT	NT	NT	NT	NT	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NT	NT	NT	NT	NT	NT	NT	NT
Temperature	°C (on-site)	-	29	NT	NT	NT	NT	NT	NT	NT	NT
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	NT
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.38**	NT
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NT
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NT	NT	NT	NT
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**2400**	NT
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**89**	NT
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NT	NT	**1000**	NT
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NT
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	10	10	ND	ND	ND	ND	ND	ND	**16**	ND
Total Barium (Ba)	µg/l	500	NE	**100**	**120**	**250**	ND	ND	ND	**380**	ND
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	ND	ND	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	ND	ND	ND	**46**	ND
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Copper (Cu)	µg/l	200	7	ND	ND	ND	**38**	ND	ND	ND	ND
Total Lead (Pb)	µg/l	10	25	ND	ND	ND	ND	ND	ND	ND	ND
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	ND	ND	ND	**50**	ND
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	10	0.06	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Zinc (Zn)	µg/l	50	50	**13**	**37**	**130**	**91**	**15**	**11**	**80**	**15**
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NT	NT	NT	NT
Acetone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	200	NE	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	51	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	10	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2butene	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**10**	ND
2-Hexanone	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	100	NE	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	5	4	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	0.36	ND	ND	ND	ND	ND	ND	**46**	ND
1,1,1-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	30	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	15	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	50	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	10	2.4	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**31.3**	ND

Notes:
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ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (10-31-07)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**7.04**	**7.11**	**6.8**	**7.5**	**6.35**	**6.74**	**8.03**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**156**	**150**	**266**	**320**	**61**	**40**	**1282**	NS
Temperature	°C (on-site)	-	29	**16.5**	**13.4**	**12.7**	**17.2**	**11.5**	**9**	**14.3**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NS
Nitrogen	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.53**	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NS
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**3010**	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**221**	NS
Chemical Oxygen Demand	mg/l	100	NE	NT	NT	NT	NT	NT	NT	**968**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	ND	ND	ND	**24.6**	NS
Total Barium (Ba)	µg/l	5	NE	**583**	**154**	**162**	**85**	**111**	**30.3**	**436**	NS
Total Beryllium (Be)	µg/l	1	6.5	ND	ND	ND	ND	ND	ND	ND	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	NS
Total Chromium (Cr)	µg/l	5	50	**25.7**	ND	ND	ND	ND	ND	**74.1**	NS
Total Cobalt (Co)	µg/l	5	NE	**10.5**	ND	ND	ND	ND	ND	**12**	NS
Total Copper (Cu)	µg/l	5	7	**18.4**	ND	ND	ND	**8.3**	ND	ND	NS
Total Lead (Pb)	µg/l	5	25	ND	ND	ND	ND	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	5	88	**18.1**	ND	ND	ND	ND	ND	**81.2**	NS
Total Selenium (Se)	µg/l	10	5	ND	ND	ND	ND	ND	ND	ND	NS
Total Silver (Ag)	µg/l	5	0.06	ND	ND	ND	ND	ND	ND	ND	NS
Total Thallium (Tl)	µg/l	5.5	NE	**6.3**	ND	ND	ND	ND	ND	ND	NS
Total Vanadium (V)	µg/l	5	NE	**56.2**	ND	ND	**6.8**	**11.4**	ND	**23.9**	NS
Total Zinc (Zn)	µg/l	10	50	**135**	**71.9**	**60**	**41.3**	**20.4**	ND	**76.7**	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NT	NT	NT	NS
Acetone	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	NS
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	NS
Benzene	µg/l	1	51	ND	ND	ND	ND	ND	ND	ND	NS
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromodichloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromoform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon Disulfide	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon tetrachloride	µg/l	1	1.6	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloromethane (Methylchloride)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,4-Dichloro-2butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dichloromethane (Methylene chloride)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Styrene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2,2-Tetrachloroethane	µg/l	1	4	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	1	3.3	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	1	0.36	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Trichloroethene (-ethylene)	µg/l	1	30	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2,3-Trichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl chloride	µg/l	1	2.4	ND	ND	ND	ND	ND	ND	ND	NS
Xylene	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS

Notes:
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ND = Not Detected at the method detection limit
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NT = Not Tested
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NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (04-23-08)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.8**	**7.32**	**7.06**	**7.2**	**7.56**	**7**	**8.56**	**7.37**
Specific Conductance	µmhos/cm (on-site)	1	NE	**124**	**162**	**234**	**426**	**48**	**42**	**8140**	**228**
Temperature	°C (on-site)	-	29	**13.1**	**14.5**	**14.3**	**16.9**	**15.2**	**15.6**	**21.4**	**13.1**
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	NT
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NT
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NT
Nitrogen	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	NT
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**1940**	NT
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**741**	NT
Chemical Oxygen Demand	mg/l	100	NE	NT	NT	NT	NT	NT	NT	**1620**	NT
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NT
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	ND	ND	ND	**9.5**	ND
Total Barium (Ba)	µg/l	5	NE	**111**	**145**	**133**	**184**	**34.4**	**24.9**	**247**	**127**
Total Beryllium (Be)	µg/l	1	6.5	ND	ND	ND	ND	ND	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	**1.5**	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	5	50	ND	ND	ND	**6.5**	ND	ND	**28.9**	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	**11.2**	ND	ND	**9**	**5.5**
Total Copper (Cu)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND
Total Lead (Pb)	µg/l	5	25	ND	ND	ND	ND	ND	ND	ND	ND
Total Nickel (Ni)	µg/l	5	88	ND	ND	ND	**7.6**	ND	ND	**51.3**	ND
Total Selenium (Se)	µg/l	10	5	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	0.06	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	ND	ND	ND	**14.4**	ND	ND	**9.1**	ND
Total Zinc (Zn)	µg/l	10	50	ND	**52.3**	**50.1**	**124**	ND	ND	**52.3**	**21.7**
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NT	NT	NT	NT
Acetone	µg/l	25	NE	ND	ND	ND	ND	ND	ND	**34.1**	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	1	51	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	1	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	1	4	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	1	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	1	0.36	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	1	30	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	1	2.4	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND

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ND = Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (10-21-08)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.51**	**6.75**	**6.84**	**6.54**	**6.08**	**6.45**	**8.63**	Dry
Specific Conductance	µmhos/cm (on-site)	1	NE	**202**	**171**	**296**	**205.6**	**56.1**	**41**	**10780**	Dry
Temperature	°C (on-site)	-	29	**11.3**	**10.2**	**7.9**	**12.5**	**10.8**	**9.6**	**22.2**	Dry
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	Dry
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	ND	Dry
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	Dry
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.14**	Dry
Nitrogen	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.14**	Dry
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	Dry
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**58.3**	Dry
Biochemical Oxygen Dema	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**198**	Dry
Chemical Oxygen Dema	mg/l	100	NE	NT	NT	NT	NT	NT	NT	**1190**	Dry
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	Dry
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	Dry
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	**6**	**6.7**	ND	ND	Dry
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	ND	ND	ND	**11.4**	Dry
Total Barium (Ba)	µg/l	5	NE	**285**	**126**	**137**	**289**	**145**	**25.2**	**317**	Dry
Total Beryllium (Be)	µg/l	1	6.5	ND	ND	ND	ND	ND	ND	ND	Dry
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	Dry
Total Chromium (Cr)	µg/l	5	50	ND	ND	ND	**17.9**	ND	ND	**34.5**	Dry
Total Cobalt (Co)	µg/l	5	NE	**7.9**	**5**	**6.4**	**34.4**	**21.1**	ND	**14.4**	Dry
Total Copper (Cu)	µg/l	5	7	ND	ND	ND	**15.8**	**10.1**	ND	ND	Dry
Total Lead (Pb)	µg/l	5	25	ND	ND	ND	**5.4**	ND	ND	ND	Dry
Total Nickel (Ni)	µg/l	5	88	ND	ND	ND	**12.1**	**6**	ND	**57.6**	Dry
Total Selenium (Se)	µg/l	10	5	ND	ND	ND	**14**	**13.2**	ND	ND	Dry
Total Silver (Ag)	µg/l	5	0.06	ND	ND	ND	ND	ND	ND	ND	Dry
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	**7.2**	ND	ND	ND	Dry
Total Vanadium (V)	µg/l	5	NE	**9.9**	ND	ND	**43.5**	**17.5**	ND	**12**	Dry
Total Zinc (Zn)	µg/l	10	50	**19**	**75.4**	**39.4**	**116**	**29.5**	**16.7**	**27.6**	Dry
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NT	NT	NT	Dry
Acetone	µg/l	25	NE	ND	ND	ND	ND	ND	ND	**37.2**	Dry
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Benzene	µg/l	1	51	ND	ND	ND	ND	ND	ND	ND	Dry
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Bromodichloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Bromoform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Carbon Disulfide	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Carbon tetrachloride	µg/l	1	1.6	ND	ND	ND	ND	ND	ND	ND	Dry
Chlorobenzene (mono)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Chloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Chloroform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Chloromethane (Methylchloride)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,2-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,4-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
trans-1,4-Dichloro-2butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,1-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,2-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,1-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
trans-1,2-Dichloroethene (-ylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,2-Dichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
cis-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
trans-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Ethylbenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Dichloromethane (Methylene chloride)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	Dry
2-Butanone (Methyl ethyl ketone)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	Dry
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Styrene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,1,2,2-Tetrachloroethane	µg/l	1	4	ND	ND	ND	ND	ND	ND	ND	Dry
Tetrachloroethene (-ethylene)	µg/l	1	3.3	ND	ND	ND	ND	ND	ND	ND	Dry
Toluene	µg/l	1	0.36	ND	ND	ND	ND	ND	ND	ND	Dry
1,1,1-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Trichloroethene (-ethylene)	µg/l	1	30	ND	ND	ND	ND	ND	ND	ND	Dry
Trichlorofluoromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
1,2,3-Trichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Vinyl chloride	µg/l	1	2.4	ND	ND	ND	ND	ND	ND	ND	Dry
Xylene	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	Dry

Notes:
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Section 15A NCAC 02B.0100, .0200, a .0300.
= Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-22-09)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.29**	**6.47**	**6.79**	**6.75**	**5.83**	**5.97**	**8.24**	**6.77**
Specific Conductance	µmhos/cm (on-site)	1	NE	**139**	**208**	**319**	**366**	**40**	**52**	**7620**	**394**
Temperature	°C (on-site)	-	29	**11.1**	**10.8**	**9.8**	**12.2**	**11.9**	**12.6**	**19.6**	**17.3**
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NT	NT	NT	NT
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.16**	NT
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.29**	NT
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.12**	NT
Nitrogen	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT
Sulfate	mg/l	500	NE	NT	NT	NT	NT	NT	NT	**1570**	NT
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**55.8**	NT
Chemical Oxygen Demand	mg/l	100	NE	NT	NT	NT	NT	NT	NT	**694**	NT
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NT
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	ND	ND	ND	**11.3**	ND
Total Barium (Ba)	µg/l	5	NE	**108**	**167**	**133**	**70.1**	**35.9**	**41.1**	**181**	**63.8**
Total Beryllium (Be)	µg/l	1	6.5	ND	ND	ND	ND	ND	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	5	50	ND	ND	ND	ND	ND	ND	**16.7**	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	**14.9**	**6.5**	**6.6**	**9.8**	**5.3**
Total Copper (Cu)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND
Total Lead (Pb)	µg/l	5	25	ND	ND	ND	ND	ND	ND	ND	ND
Total Nickel (Ni)	µg/l	5	88	ND	ND	ND	**5.6**	ND	ND	**48.2**	ND
Total Selenium (Se)	µg/l	10	5	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	0.06	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	ND	ND	ND	**8.1**	ND	ND	**11.2**	ND
Total Zinc (Zn)	µg/l	10	50	ND	**50**	**36.6**	**80**	ND	ND	**10.9**	ND
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NT	NT	NT	NT
Acetone	µg/l	25	NE	ND	ND	ND	ND	ND	ND	**38.4**	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	1	51	ND	ND	ND	ND	ND	ND	**5.2**	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	1	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**13.7**	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**11.3**	ND
Styrene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	1	4	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	1	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	1	0.36	ND	ND	ND	ND	ND	ND	**7.3**	ND
1,1,1-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	1	30	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	1	2.4	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	µg/l	2	NE	ND	ND	ND	ND	ND	ND	**65.1**	ND
Methyl-tert-butyl-ether (MTBE)	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**9.0**	NT
Naphthalene	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**6.7**	NT
Phosphorus	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.75**	NT

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Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (10-26-09)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.41**	Dry	**6.49**	Dry	**6.07**	**6.26**	**7.8**	**6.58**
Specific Conductance	µmhos/cm (on-site)	1	NE	**192**	Dry	**291**	Dry	**60**	**58**	NT	**278**
Temperature	°C (on-site)	-	29	**11.5**	Dry	**11.0**	Dry	**13.6**	**12.4**	NT	**10.3**
Turbidity	NTU (on-site)	0.1	50	NT	Dry	NT	Dry	NT	NT	NT	NT
Nitrate as N	mg/l	0.1	NE	NT	Dry	NT	Dry	NT	NT	NT	NT
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	Dry	NT	Dry	NT	NT	NT	NT
Nitrite as N	mg/l	0.1	NE	NT	Dry	NT	Dry	NT	NT	NT	NT
Nitrogen	mg/l	0.1	NE	NT	Dry	NT	Dry	NT	NT	NT	NT
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	Dry	NT	Dry	NT	NT	NT	NT
Sulfate	mg/l	500	NE	NT	Dry	NT	Dry	NT	NT	NT	NT
Biochemical Oxygen Demand	mg/l	2	NE	NT	Dry	NT	Dry	NT	NT	**4.8**	NT
Chemical Oxygen Demand	mg/l	100	NE	NT	Dry	NT	Dry	NT	NT	**212**	NT
Total Dissolved Solids	mg/l	20	NE	NT	Dry	NT	Dry	NT	NT	NT	NT
Cyanide	µg/l	2	5	NT	Dry	NT	Dry	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	10	ND	Dry	ND	Dry	ND	ND	ND	ND
Total Barium (Ba)	µg/l	5	NE	**228**	Dry	**285**	Dry	**48.4**	**30.9**	**305**	**175**
Total Beryllium (Be)	µg/l	1	6.5	ND	Dry	ND	Dry	ND	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	0.4	ND	Dry	ND	Dry	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	5	50	ND	Dry	**8.9**	Dry	ND	ND	ND	ND
Total Cobalt (Co)	µg/l	5	NE	ND	Dry	**5.7**	Dry	**6.5**	ND	**12.5**	ND
Total Copper (Cu)	µg/l	5	7	ND	Dry	**5.5**	Dry	ND	ND	ND	ND
Total Lead (Pb)	µg/l	5	25	ND	Dry	ND	Dry	ND	ND	ND	ND
Total Nickel (Ni)	µg/l	5	88	ND	Dry	**10.1**	Dry	ND	ND	**20.4**	ND
Total Selenium (Se)	µg/l	10	5	ND	Dry	ND	Dry	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	0.06	ND	Dry	ND	Dry	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	ND	Dry	**16.0**	Dry	ND	ND	**8.5**	ND
Total Zinc (Zn)	µg/l	10	50	ND	Dry	**151**	Dry	ND	ND	**48.1**	**16.9**
Mercury	µg/l	0.2	0.012	NT	Dry	NT	Dry	NT	NT	NT	NT
Acetone	µg/l	25	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Acrylonitrile	µg/l	10	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Benzene	µg/l	1	51	ND	Dry	ND	Dry	ND	ND	ND	ND
Bromochloromethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Bromodichloromethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Bromoform	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Carbon Disulfide	µg/l	2	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Carbon tetrachloride	µg/l	1	1.6	ND	Dry	ND	Dry	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Chloroethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Chloroform	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Dibromomethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
trans-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Ethylbenzene	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
2-Hexanone	µg/l	5	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Iodomethane	µg/l	5	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Styrene	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/l	1	4	ND	Dry	ND	Dry	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	1	3.3	ND	Dry	ND	Dry	ND	ND	ND	ND
Toluene	µg/l	1	0.36	ND	Dry	ND	Dry	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	1	30	ND	Dry	ND	Dry	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/l	1	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Vinyl acetate	µg/l	2	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Vinyl chloride	µg/l	1	2.4	ND	Dry	ND	Dry	ND	ND	ND	ND
Xylenes	µg/l	2	NE	ND	Dry	ND	Dry	ND	ND	ND	ND
Methyl-tert-butyl-ether (MTBE)	µg/l	5	NE	NT	Dry	NT	Dry	NT	NT	ND	NT
Naphthalene	µg/l	5	NE	NT	Dry	NT	Dry	NT	NT	ND	NT
Phosphorus	mg/l	0.1	NE	NT	Dry	NT	Dry	NT	NT	NT	NT

Notes:
MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters a Wetlands Standards
Section 15A NCAC 02B.0100, .0200, a .0300.
= Not Detected at the method detection limit
NS = Not Sampled
NT = Not Tested
NE = Not Established; North Carolina has not established a MCL
NP = Not Present during sampling event
Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-21-10)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.72**	**7.29**	**7.14**	NP	**6.06**	**6.04**	**7.69**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**189**	**213**	**273**	NP	**94**	**106**	**310**	NS
Temperature	°C (on-site)	-	29	**13.9**	**12.3**	**15.9**	NP	**15.7**	**14**	**13.3**	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NP	NT	NT	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NP	NT	NT	ND	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NP	NT	NT	ND	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NP	NT	NT	ND	NS
Nitrogen	mg/l	0.1	NE	NT	NT	NT	NP	NT	NT	NT	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NP	NT	NT	NT	NS
Sulfate	mg/l	75	NE	NT	NT	NT	NP	NT	NT	**477**	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NP	NT	NT	**54**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NP	NT	NT	**203**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NP	NT	NT	NT	NS
Cyanide	µg/l	2	5	NT	NT	NT	NP	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	NP	ND	ND	ND	NS
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	NP	ND	ND	**8.6**	NS
Total Barium (Ba)	µg/l	5	NE	**123**	**178**	**172**	NP	**34.3**	**41.4**	**124**	NS
Total Beryllium (Be)	µg/l	1	6.5	ND	ND	ND	NP	ND	ND	ND	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	NP	ND	ND	ND	NS
Total Chromium (Cr)	µg/l	5	50	ND	ND	ND	NP	ND	ND	**8**	NS
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	NP	ND	ND	**11.7**	NS
Total Copper (Cu)	µg/l	5	7	ND	ND	ND	NP	ND	ND	**6.8**	NS
Total Lead (Pb)	µg/l	5	25	ND	ND	ND	NP	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	5	88	ND	ND	ND	NP	ND	ND	**35.3**	NS
Total Selenium (Se)	µg/l	10	5	ND	ND	ND	NP	ND	ND	ND	NS
Total Silver (Ag)	µg/l	5	0.06	ND	ND	ND	NP	ND	ND	ND	NS
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	NP	ND	ND	ND	NS
Total Vanadium (V)	µg/l	5	NE	ND	ND	ND	NP	ND	ND	**6.8**	NS
Total Zinc (Zn)	µg/l	10	50	ND	**49.8**	**32.9**	NP	ND	ND	**12.1**	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	NP	NT	NT	NT	NS
Acetone	µg/l	25	NE	ND	ND	ND	NP	ND	ND	ND	NS
Acrylonitrile	µg/l	10	NE	ND	ND	ND	NP	ND	ND	NT	NS
Benzene	µg/l	1	51	ND	ND	ND	NP	ND	ND	ND	NS
Bromochloromethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Bromodichloromethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Bromoform	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Carbon Disulfide	µg/l	2	NE	ND	ND	ND	NP	ND	ND	NT	NS
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	NP	ND	ND	ND	NS
Carbon tetrachloride	µg/l	1	1.6	ND	ND	ND	NP	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Chloroethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Chloroform	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Chloromethane (Methylchloride)	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Dibromomethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,2-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	NP	ND	ND	NT	NS
1,1-Dichloroethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	NP	ND	ND	**2**	NS
trans-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Ethylbenzene	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
2-Hexanone	µg/l	5	NE	ND	ND	ND	NP	ND	ND	ND	NS
Iodomethane	µg/l	5	NE	ND	ND	ND	NP	ND	ND	NT	NS
Dichloromethane (Methylene chloride)	µg/l	2	NE	ND	ND	ND	NP	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	5	NE	ND	ND	ND	NP	ND	ND	ND	NS
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	NP	ND	ND	ND	NS
Styrene	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,1,2,2-Tetrachloroethane	µg/l	1	4	ND	ND	ND	NP	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	1	3.3	ND	ND	ND	NP	ND	ND	ND	NS
Toluene	µg/l	1	0.36	ND	ND	ND	NP	ND	ND	**1.1**	NS
1,1,1-Trichloroethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Trichloroethene (-ethylene)	µg/l	1	30	ND	ND	ND	NP	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
1,2,3-Trichloropropane	µg/l	1	NE	ND	ND	ND	NP	ND	ND	ND	NS
Vinyl acetate	µg/l	2	NE	ND	ND	ND	NP	ND	ND	ND	NS
Vinyl chloride	µg/l	1	2.4	ND	ND	ND	NP	ND	ND	ND	NS
Xylenes	µg/l	2	NE	ND	ND	ND	NP	ND	ND	NT	NS
Methyl-tert-butyl-ether (MTBE)	µg/l	1	NE	NT	NT	NT	NP	NT	NT	ND	NS
Naphthalene	µg/l	1	NE	NT	NT	NT	NP	NT	NT	ND	NS
Phosphorus	mg/l	0.1	NE	NT	NT	NT	NP	NT	NT	**0.26**	NS

Notes:
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APPENDIX C

LABORATORY ANALYTICAL RESULTS

Pace Analytical®
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Huntersville, NC 28078
(704)875-9092

May 06, 2010

Mr. Stephen King
Haywood Co. Solid Waste
278 Recycle Rd.
Clyde, NC 28721

RE: Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Dear Mr. King:
Enclosed are the analytical results for sample(s) received by the laboratory on April 22, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tom R. Williams

Tom Williams

tom.williams@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Charlotte Certification IDs

Kentucky UST Certification #: 84
Florida/NELAP Certification #: E87627
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Tennessee Certification #: 04010
Virginia Certification #: 00213
West Virginia Certification #: 357
9800 Kincey Ave. - Ste 100 Huntersville, NC 28078
Connecticut Certification #: PH-0104

Asheville Certification IDs

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Louisiana/LELAP Certification #: 03095
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 9903002
South Carolina Certification #: 9903001
Tennessee Certification #: 2980
Virginia Certification #: 00072
West Virginia Certification #: 356
Florida/NELAP Certification #: E87648

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Huntersville, NC 28078
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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: Leachate **Lab ID: 9267909001** Collected: 04/21/10 13:10 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:21		
Collected Date	**4/21/10**			1		04/28/10 15:21		
Collected Time	**13:10**			1		04/28/10 15:21		
Field pH	**7.69**	Std. Units		1		04/28/10 15:21		
Field Temperature	**13.3**	deg C		1		04/28/10 15:21		
Field Specific Conductance	**310**	umhos/cm		1		04/28/10 15:21		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7440-36-0	
Arsenic	**8.6**	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7440-38-2	
Barium	**124**	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/29/10 12:20	05/01/10 00:11	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/29/10 12:20	05/01/10 00:11	7440-43-9	
Chromium	**8.0**	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7440-47-3	
Cobalt	**11.7**	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7440-48-4	
Copper	**6.8**	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7440-50-8	
Lead	ND	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7439-92-1	
Nickel	**35.3**	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/29/10 12:20	05/01/10 00:11	7782-49-2	
Silver	ND	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7440-22-4	
Thallium	ND	ug/L	10.0	1	04/29/10 12:20	05/01/10 00:11	7440-28-0	
Vanadium	**6.8**	ug/L	5.0	1	04/29/10 12:20	05/01/10 00:11	7440-62-2	
Zinc	**12.1**	ug/L	10.0	1	04/29/10 12:20	05/01/10 00:11	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 01:59	67-64-1	
Benzene	ND	ug/L	1.0	1		04/25/10 01:59	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		04/25/10 01:59	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 01:59	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 01:59	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 01:59	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 01:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 01:59	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 01:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 01:59	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 01:59	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 01:59	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 01:59	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		04/25/10 01:59	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		04/25/10 01:59	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 01:59	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 01:59	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 01:59	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 01:59	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 01:59	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 01:59	541-73-1	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: Leachate **Lab ID: 9267909001** Collected: 04/21/10 13:10 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 01:59	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		04/25/10 01:59	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 01:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 01:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 01:59	75-35-4	
cis-1,2-Dichloroethene	**2.0**	ug/L	1.0	1		04/25/10 01:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 01:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 01:59	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/25/10 01:59	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 01:59	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		04/25/10 01:59	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 01:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 01:59	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		04/25/10 01:59	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 01:59	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		04/25/10 01:59	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		04/25/10 01:59	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		04/25/10 01:59	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 01:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/10 01:59	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		04/25/10 01:59	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		04/25/10 01:59	91-20-3	
Styrene	ND	ug/L	1.0	1		04/25/10 01:59	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 01:59	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 01:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 01:59	127-18-4	
Toluene	**1.1**	ug/L	1.0	1		04/25/10 01:59	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		04/25/10 01:59	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		04/25/10 01:59	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 01:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 01:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 01:59	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 01:59	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 01:59	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 01:59	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 01:59	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 01:59	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 01:59	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		04/25/10 01:59	460-00-4	
Dibromofluoromethane (S)	104	%	85-115	1		04/25/10 01:59	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	79-120	1		04/25/10 01:59	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		04/25/10 01:59	2037-26-5	
5210B BOD, 5 day	Analytical Method: SM 5210B							
BOD, 5 day	**54.0**	mg/L	2.0	1	04/22/10 12:34	04/27/10 11:30		

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: Leachate **Lab ID: 9267909001** Collected: 04/21/10 13:10 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		04/23/10 09:35		
Nitrogen, Nitrite	ND	mg/L	0.10	1		04/23/10 09:35		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		04/23/10 09:35		
365.1 Phosphorus, Total	Analytical Method: EPA 365.1							
Phosphorus	**0.26**	mg/L	0.10	1		04/27/10 14:36	7723-14-0	
5220D COD	Analytical Method: SM 5220D							
Chemical Oxygen Demand	**203**	mg/L	25.0	1		05/05/10 13:40		
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90							
Sulfate	**477**	mg/L	75.0	15		04/30/10 11:29	14808-79-8	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-1 **Lab ID: 9267909002** Collected: 04/21/10 11:45 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:23		
Collected Date	**4/21/10**			1		04/28/10 15:23		
Collected Time	**11:45**			1		04/28/10 15:23		
Field pH	**6.72**	Std. Units		1		04/28/10 15:23		
Field Temperature	**13.9**	deg C		1		04/28/10 15:23		
Field Specific Conductance	**189**	umhos/cm		1		04/28/10 15:23		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7440-38-2	
Barium	**123**	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/27/10 16:30	05/01/10 05:51	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/27/10 16:30	05/01/10 05:51	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7440-48-4	
Copper	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7440-50-8	
Lead	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/27/10 16:30	05/01/10 05:51	7782-49-2	
Silver	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/27/10 16:30	05/01/10 05:51	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:51	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/27/10 16:30	05/01/10 05:51	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 02:23	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/25/10 02:23	107-13-1	
Benzene	ND	ug/L	1.0	1		04/25/10 02:23	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 02:23	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 02:23	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 02:23	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 02:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 02:23	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/25/10 02:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 02:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 02:23	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 02:23	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 02:23	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 02:23	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 02:23	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 02:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 02:23	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 02:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 02:23	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 02:23	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/25/10 02:23	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-1 **Lab ID: 9267909002** Collected: 04/21/10 11:45 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 02:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 02:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 02:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 02:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 02:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 02:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 02:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 02:23	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 02:23	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/25/10 02:23	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/25/10 02:23	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 02:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/10 02:23	108-10-1	
Styrene	ND	ug/L	1.0	1		04/25/10 02:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 02:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 02:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 02:23	127-18-4	
Toluene	ND	ug/L	1.0	1		04/25/10 02:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 02:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 02:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 02:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 02:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 02:23	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 02:23	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 02:23	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/25/10 02:23	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 02:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 02:23	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109	1		04/25/10 02:23	460-00-4	
Dibromofluoromethane (S)	102	%	85-115	1		04/25/10 02:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120	1		04/25/10 02:23	17060-07-0	
Toluene-d8 (S)	98	%	70-120	1		04/25/10 02:23	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-2 **Lab ID: 9267909003** Collected: 04/21/10 12:45 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:24		
Collected Date	**4/21/10**			1		04/28/10 15:24		
Collected Time	**12:45**			1		04/28/10 15:24		
Field pH	**7.29**	Std. Units		1		04/28/10 15:24		
Field Temperature	**12.3**	deg C		1		04/28/10 15:24		
Field Specific Conductance	**213**	umhos/cm		1		04/28/10 15:24		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7440-38-2	
Barium	**178**	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/27/10 16:30	05/01/10 05:54	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/27/10 16:30	05/01/10 05:54	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7440-48-4	
Copper	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7440-50-8	
Lead	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/27/10 16:30	05/01/10 05:54	7782-49-2	
Silver	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/27/10 16:30	05/01/10 05:54	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:54	7440-62-2	
Zinc	**49.8**	ug/L	10.0	1	04/27/10 16:30	05/01/10 05:54	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 02:47	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/25/10 02:47	107-13-1	
Benzene	ND	ug/L	1.0	1		04/25/10 02:47	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 02:47	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 02:47	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 02:47	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 02:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 02:47	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/25/10 02:47	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 02:47	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 02:47	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 02:47	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 02:47	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 02:47	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 02:47	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 02:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 02:47	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 02:47	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 02:47	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 02:47	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/25/10 02:47	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-2 **Lab ID: 9267909003** Collected: 04/21/10 12:45 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 02:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 02:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 02:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 02:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 02:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 02:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 02:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 02:47	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 02:47	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/25/10 02:47	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/25/10 02:47	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 02:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/10 02:47	108-10-1	
Styrene	ND	ug/L	1.0	1		04/25/10 02:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 02:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 02:47	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 02:47	127-18-4	
Toluene	ND	ug/L	1.0	1		04/25/10 02:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 02:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 02:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 02:47	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 02:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 02:47	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 02:47	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 02:47	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/25/10 02:47	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 02:47	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 02:47	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109	1		04/25/10 02:47	460-00-4	
Dibromofluoromethane (S)	99	%	85-115	1		04/25/10 02:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120	1		04/25/10 02:47	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		04/25/10 02:47	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-3 **Lab ID: 9267909004** Collected: 04/21/10 12:35 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:24		
Collected Date	**4/21/10**			1		04/28/10 15:24		
Collected Time	**12:35**			1		04/28/10 15:24		
Field pH	**7.14**	Std. Units		1		04/28/10 15:24		
Field Temperature	**15.9**	deg C		1		04/28/10 15:24		
Field Specific Conductance	**273**	umhos/cm		1		04/28/10 15:24		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7440-38-2	
Barium	**172**	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/27/10 16:30	05/01/10 05:57	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/27/10 16:30	05/01/10 05:57	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7440-48-4	
Copper	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7440-50-8	
Lead	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/27/10 16:30	05/01/10 05:57	7782-49-2	
Silver	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/27/10 16:30	05/01/10 05:57	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 05:57	7440-62-2	
Zinc	**32.9**	ug/L	10.0	1	04/27/10 16:30	05/01/10 05:57	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 03:10	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/25/10 03:10	107-13-1	
Benzene	ND	ug/L	1.0	1		04/25/10 03:10	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 03:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 03:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 03:10	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 03:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 03:10	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/25/10 03:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 03:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 03:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 03:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 03:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 03:10	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 03:10	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 03:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 03:10	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 03:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 03:10	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 03:10	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/25/10 03:10	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-3 **Lab ID: 9267909004** Collected: 04/21/10 12:35 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 03:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 03:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 03:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 03:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 03:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 03:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 03:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 03:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 03:10	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/25/10 03:10	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/25/10 03:10	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 03:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/10 03:10	108-10-1	
Styrene	ND	ug/L	1.0	1		04/25/10 03:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 03:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 03:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 03:10	127-18-4	
Toluene	ND	ug/L	1.0	1		04/25/10 03:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 03:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 03:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 03:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 03:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 03:10	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 03:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 03:10	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/25/10 03:10	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 03:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 03:10	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109	1		04/25/10 03:10	460-00-4	
Dibromofluoromethane (S)	105	%	85-115	1		04/25/10 03:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		04/25/10 03:10	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		04/25/10 03:10	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-6 **Lab ID: 9267909005** Collected: 04/21/10 16:05 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:25		
Collected Date	**4/21/10**			1		04/28/10 15:25		
Collected Time	**16:05**			1		04/28/10 15:25		
Field pH	**6.06**	Std. Units		1		04/28/10 15:25		
Field Temperature	**15.7**	deg C		1		04/28/10 15:25		
Field Specific Conductance	**94**	umhos/cm		1		04/28/10 15:25		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7440-38-2	
Barium	**34.3**	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/27/10 16:30	05/01/10 06:01	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/27/10 16:30	05/01/10 06:01	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7440-48-4	
Copper	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7440-50-8	
Lead	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/27/10 16:30	05/01/10 06:01	7782-49-2	
Silver	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/27/10 16:30	05/01/10 06:01	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/27/10 16:30	05/01/10 06:01	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/27/10 16:30	05/01/10 06:01	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 03:34	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/25/10 03:34	107-13-1	
Benzene	ND	ug/L	1.0	1		04/25/10 03:34	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 03:34	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 03:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 03:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 03:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 03:34	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/25/10 03:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 03:34	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 03:34	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 03:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 03:34	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 03:34	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 03:34	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 03:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 03:34	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 03:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 03:34	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 03:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/25/10 03:34	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-6 **Lab ID: 9267909005** Collected: 04/21/10 16:05 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 03:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 03:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 03:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 03:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 03:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 03:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 03:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 03:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 03:34	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/25/10 03:34	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/25/10 03:34	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 03:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/10 03:34	108-10-1	
Styrene	ND	ug/L	1.0	1		04/25/10 03:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 03:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 03:34	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 03:34	127-18-4	
Toluene	ND	ug/L	1.0	1		04/25/10 03:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 03:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 03:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 03:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 03:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 03:34	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 03:34	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 03:34	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/25/10 03:34	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 03:34	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 03:34	95-47-6	
4-Bromofluorobenzene (S)	100	%	87-109	1		04/25/10 03:34	460-00-4	
Dibromofluoromethane (S)	100	%	85-115	1		04/25/10 03:34	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	79-120	1		04/25/10 03:34	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		04/25/10 03:34	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-7 **Lab ID: 9267909006** Collected: 04/21/10 15:55 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:26		
Collected Date	**4/21/10**			1		04/28/10 15:26		
Collected Time	**15:55**			1		04/28/10 15:26		
Field pH	**6.04**	Std. Units		1		04/28/10 15:26		
Field Temperature	**14.0**	deg C		1		04/28/10 15:26		
Field Specific Conductance	**106**	umhos/cm		1		04/28/10 15:26		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7440-38-2	
Barium	**41.4**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:34	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:34	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:34	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 21:34	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:34	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:34	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 03:58	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/25/10 03:58	107-13-1	
Benzene	ND	ug/L	1.0	1		04/25/10 03:58	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 03:58	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 03:58	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 03:58	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 03:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 03:58	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/25/10 03:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 03:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 03:58	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 03:58	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 03:58	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 03:58	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 03:58	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 03:58	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 03:58	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 03:58	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 03:58	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 03:58	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/25/10 03:58	110-57-6	

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(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: SW-7 **Lab ID: 9267909006** Collected: 04/21/10 15:55 Received: 04/22/10 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 03:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 03:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 03:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 03:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 03:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 03:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 03:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 03:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 03:58	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/25/10 03:58	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/25/10 03:58	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 03:58	75-09-2	
4-Methyl-2-pentanone (MiBK)	ND	ug/L	5.0	1		04/25/10 03:58	108-10-1	
Styrene	ND	ug/L	1.0	1		04/25/10 03:58	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 03:58	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 03:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 03:58	127-18-4	
Toluene	ND	ug/L	1.0	1		04/25/10 03:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 03:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 03:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 03:58	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 03:58	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 03:58	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 03:58	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 03:58	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/25/10 03:58	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 03:58	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 03:58	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		04/25/10 03:58	460-00-4	
Dibromofluoromethane (S)	104	%	85-115	1		04/25/10 03:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	79-120	1		04/25/10 03:58	17060-07-0	
Toluene-d8 (S)	98	%	70-120	1		04/25/10 03:58	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-1A **Lab ID: 9267909007** Collected: 04/22/10 14:50 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:33		
Collected Date	**4/22/10**			1		04/28/10 15:33		
Collected Time	**14:50**			1		04/28/10 15:33		
Field pH	**6.06**	Std. Units		1		04/28/10 15:33		
Field Temperature	**13.5**	deg C		1		04/28/10 15:33		
Static Water Level	**18.23**	feet		1		04/28/10 15:33		
Field Specific Conductance	**161**	umhos/cm		1		04/28/10 15:33		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7440-38-2	
Barium	**157**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:37	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:37	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:37	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 21:37	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:37	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:37	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/24/10 21:07	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/24/10 21:07	107-13-1	
Benzene	ND	ug/L	1.0	1		04/24/10 21:07	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/24/10 21:07	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/24/10 21:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/24/10 21:07	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/24/10 21:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/24/10 21:07	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/24/10 21:07	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/24/10 21:07	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/24/10 21:07	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/24/10 21:07	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/24/10 21:07	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/24/10 21:07	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/24/10 21:07	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/24/10 21:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/24/10 21:07	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/24/10 21:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 21:07	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 21:07	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-1A **Lab ID: 9267909007** Collected: 04/22/10 14:50 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/24/10 21:07	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/24/10 21:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/24/10 21:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/24/10 21:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 21:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 21:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/24/10 21:07	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 21:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 21:07	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/24/10 21:07	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/24/10 21:07	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/24/10 21:07	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/24/10 21:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/24/10 21:07	108-10-1	
Styrene	ND	ug/L	1.0	1		04/24/10 21:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 21:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 21:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/24/10 21:07	127-18-4	
Toluene	ND	ug/L	1.0	1		04/24/10 21:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/24/10 21:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/24/10 21:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/24/10 21:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/24/10 21:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/24/10 21:07	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/24/10 21:07	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/24/10 21:07	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/24/10 21:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/24/10 21:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/24/10 21:07	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		04/24/10 21:07	460-00-4	
Dibromofluoromethane (S)	99	%	85-115	1		04/24/10 21:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	79-120	1		04/24/10 21:07	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		04/24/10 21:07	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-2 **Lab ID: 9267909008** Collected: 04/22/10 13:00 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:36		
Collected Date	**4/22/10**			1		04/28/10 15:36		
Collected Time	**13:00**			1		04/28/10 15:36		
Field pH	**5.90**	Std. Units		1		04/28/10 15:36		
Field Temperature	**13.3**	deg C		1		04/28/10 15:36		
Static Water Level	**28.93**	feet		1		04/28/10 15:36		
Field Specific Conductance	**1987**	umhos/cm		1		04/28/10 15:36		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7440-36-0	
Arsenic	**7.4**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7440-38-2	
Barium	**1920**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:40	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:40	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7439-92-1	
Nickel	**6.2**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:40	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 21:40	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:40	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:40	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/24/10 21:32	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/24/10 21:32	107-13-1	
Benzene	ND	ug/L	1.0	1		04/24/10 21:32	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/24/10 21:32	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/24/10 21:32	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/24/10 21:32	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/24/10 21:32	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/24/10 21:32	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/24/10 21:32	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/24/10 21:32	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/24/10 21:32	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/24/10 21:32	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/24/10 21:32	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/24/10 21:32	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/24/10 21:32	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/24/10 21:32	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/24/10 21:32	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/24/10 21:32	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 21:32	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 21:32	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-2 **Lab ID: 9267909008** Collected: 04/22/10 13:00 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/24/10 21:32	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/24/10 21:32	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/24/10 21:32	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/24/10 21:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 21:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 21:32	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/24/10 21:32	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 21:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 21:32	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/24/10 21:32	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/24/10 21:32	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/24/10 21:32	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/24/10 21:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/24/10 21:32	108-10-1	
Styrene	ND	ug/L	1.0	1		04/24/10 21:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 21:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 21:32	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/24/10 21:32	127-18-4	
Toluene	ND	ug/L	1.0	1		04/24/10 21:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/24/10 21:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/24/10 21:32	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/24/10 21:32	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/24/10 21:32	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/24/10 21:32	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/24/10 21:32	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/24/10 21:32	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/24/10 21:32	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/24/10 21:32	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/24/10 21:32	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		04/24/10 21:32	460-00-4	
Dibromofluoromethane (S)	104	%	85-115	1		04/24/10 21:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		04/24/10 21:32	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		04/24/10 21:32	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-2D **Lab ID: 9267909009** Collected: 04/22/10 13:10 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:37		
Collected Date	**4/22/10**			1		04/28/10 15:37		
Collected Time	**13:10**			1		04/28/10 15:37		
Field pH	**5.94**	Std. Units		1		04/28/10 15:37		
Field Temperature	**13.4**	deg C		1		04/28/10 15:37		
Static Water Level	**28.82**	feet		1		04/28/10 15:37		
Field Specific Conductance	**1812**	umhos/cm		1		04/28/10 15:37		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7440-36-0	
Arsenic	**9.8**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7440-38-2	
Barium	**1380**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:44	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:44	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7440-48-4	
Copper	**5.9**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:44	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 21:44	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:44	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:44	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/24/10 21:56	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/24/10 21:56	107-13-1	
Benzene	ND	ug/L	1.0	1		04/24/10 21:56	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/24/10 21:56	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/24/10 21:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/24/10 21:56	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/24/10 21:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/24/10 21:56	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/24/10 21:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/24/10 21:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/24/10 21:56	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/24/10 21:56	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/24/10 21:56	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/24/10 21:56	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/24/10 21:56	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/24/10 21:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/24/10 21:56	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/24/10 21:56	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 21:56	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 21:56	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-2D **Lab ID: 9267909009** Collected: 04/22/10 13:10 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/24/10 21:56	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/24/10 21:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/24/10 21:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/24/10 21:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 21:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 21:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/24/10 21:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 21:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 21:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/24/10 21:56	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/24/10 21:56	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/24/10 21:56	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/24/10 21:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/24/10 21:56	108-10-1	
Styrene	ND	ug/L	1.0	1		04/24/10 21:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 21:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 21:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/24/10 21:56	127-18-4	
Toluene	ND	ug/L	1.0	1		04/24/10 21:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/24/10 21:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/24/10 21:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/24/10 21:56	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/24/10 21:56	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/24/10 21:56	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/24/10 21:56	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/24/10 21:56	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/24/10 21:56	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/24/10 21:56	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/24/10 21:56	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		04/24/10 21:56	460-00-4	
Dibromofluoromethane (S)	103	%	85-115	1		04/24/10 21:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		04/24/10 21:56	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		04/24/10 21:56	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-4A **Lab ID: 9267909010** Collected: 04/22/10 15:10 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:38		
Collected Date	**4/22/10**			1		04/28/10 15:38		
Collected Time	**15:10**			1		04/28/10 15:38		
Field pH	**7.04**	Std. Units		1		04/28/10 15:38		
Field Temperature	**14.9**	deg C		1		04/28/10 15:38		
Static Water Level	**44.82**	feet		1		04/28/10 15:38		
Field Specific Conductance	**1727**	umhos/cm		1		04/28/10 15:38		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7440-38-2	
Barium	**20.9**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:47	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:47	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:47	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 21:47	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:47	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:47	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/24/10 22:20	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/24/10 22:20	107-13-1	
Benzene	ND	ug/L	1.0	1		04/24/10 22:20	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/24/10 22:20	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/24/10 22:20	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/24/10 22:20	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/24/10 22:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/24/10 22:20	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/24/10 22:20	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/24/10 22:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/24/10 22:20	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/24/10 22:20	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/24/10 22:20	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/24/10 22:20	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/24/10 22:20	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/24/10 22:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/24/10 22:20	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/24/10 22:20	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 22:20	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 22:20	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-4A **Lab ID: 9267909010** Collected: 04/22/10 15:10 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/24/10 22:20	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/24/10 22:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/24/10 22:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/24/10 22:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 22:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 22:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/24/10 22:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 22:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 22:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/24/10 22:20	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/24/10 22:20	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/24/10 22:20	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/24/10 22:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/24/10 22:20	108-10-1	
Styrene	ND	ug/L	1.0	1		04/24/10 22:20	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 22:20	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 22:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/24/10 22:20	127-18-4	
Toluene	ND	ug/L	1.0	1		04/24/10 22:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/24/10 22:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/24/10 22:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/24/10 22:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/24/10 22:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/24/10 22:20	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/24/10 22:20	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/24/10 22:20	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/24/10 22:20	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/24/10 22:20	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/24/10 22:20	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		04/24/10 22:20	460-00-4	
Dibromofluoromethane (S)	102	%	85-115	1		04/24/10 22:20	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		04/24/10 22:20	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		04/24/10 22:20	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-8 **Lab ID: 9267909011** Collected: 04/22/10 12:45 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:39		
Collected Date	**4/22/10**			1		04/28/10 15:39		
Collected Time	**12:45**			1		04/28/10 15:39		
Field pH	**5.50**	Std. Units		1		04/28/10 15:39		
Field Temperature	**14.6**	deg C		1		04/28/10 15:39		
Static Water Level	**30.19**	feet		1		04/28/10 15:39		
Field Specific Conductance	**659**	umhos/cm		1		04/28/10 15:39		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7440-38-2	
Barium	**150**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:50	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:50	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:50	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 21:50	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:50	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:50	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/24/10 22:44	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/24/10 22:44	107-13-1	
Benzene	ND	ug/L	1.0	1		04/24/10 22:44	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/24/10 22:44	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/24/10 22:44	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/24/10 22:44	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/24/10 22:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/24/10 22:44	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/24/10 22:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/24/10 22:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/24/10 22:44	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/24/10 22:44	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/24/10 22:44	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/24/10 22:44	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/24/10 22:44	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/24/10 22:44	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/24/10 22:44	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/24/10 22:44	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 22:44	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 22:44	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-8 **Lab ID: 9267909011** Collected: 04/22/10 12:45 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/24/10 22:44	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/24/10 22:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/24/10 22:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/24/10 22:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 22:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 22:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/24/10 22:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 22:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 22:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/24/10 22:44	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/24/10 22:44	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/24/10 22:44	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/24/10 22:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/24/10 22:44	108-10-1	
Styrene	ND	ug/L	1.0	1		04/24/10 22:44	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 22:44	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 22:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/24/10 22:44	127-18-4	
Toluene	ND	ug/L	1.0	1		04/24/10 22:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/24/10 22:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/24/10 22:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/24/10 22:44	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/24/10 22:44	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/24/10 22:44	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/24/10 22:44	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/24/10 22:44	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/24/10 22:44	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/24/10 22:44	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/24/10 22:44	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		04/24/10 22:44	460-00-4	
Dibromofluoromethane (S)	101	%	85-115	1		04/24/10 22:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		04/24/10 22:44	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		04/24/10 22:44	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-11S **Lab ID: 9267909012** Collected: 04/22/10 13:55 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:40		
Collected Date	**4/22/10**			1		04/28/10 15:40		
Collected Time	**13:55**			1		04/28/10 15:40		
Field pH	**6.05**	Std. Units		1		04/28/10 15:40		
Field Temperature	**13.5**	deg C		1		04/28/10 15:40		
Static Water Level	**85.88**	feet		1		04/28/10 15:40		
Field Specific Conductance	**65**	umhos/cm		1		04/28/10 15:40		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7440-38-2	
Barium	**208**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:53	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 21:53	7440-43-9	
Chromium	**14.3**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7440-47-3	
Cobalt	**5.6**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7440-48-4	
Copper	**9.9**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7439-92-1	
Nickel	**8.6**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 21:53	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 21:53	7440-28-0	
Vanadium	**27.9**	ug/L	5.0	1	04/28/10 15:40	04/29/10 21:53	7440-62-2	
Zinc	**22.2**	ug/L	10.0	1	04/28/10 15:40	04/30/10 14:40	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/24/10 23:08	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/24/10 23:08	107-13-1	
Benzene	ND	ug/L	1.0	1		04/24/10 23:08	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/24/10 23:08	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/24/10 23:08	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/24/10 23:08	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/24/10 23:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/24/10 23:08	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/24/10 23:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/24/10 23:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/24/10 23:08	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/24/10 23:08	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/24/10 23:08	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/24/10 23:08	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/24/10 23:08	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/24/10 23:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/24/10 23:08	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/24/10 23:08	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 23:08	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 23:08	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-11S **Lab ID: 9267909012** Collected: 04/22/10 13:55 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/24/10 23:08	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/24/10 23:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/24/10 23:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/24/10 23:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 23:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 23:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/24/10 23:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 23:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 23:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/24/10 23:08	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/24/10 23:08	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/24/10 23:08	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/24/10 23:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/24/10 23:08	108-10-1	
Styrene	ND	ug/L	1.0	1		04/24/10 23:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 23:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 23:08	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/24/10 23:08	127-18-4	
Toluene	ND	ug/L	1.0	1		04/24/10 23:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/24/10 23:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/24/10 23:08	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/24/10 23:08	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/24/10 23:08	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/24/10 23:08	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/24/10 23:08	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/24/10 23:08	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/24/10 23:08	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/24/10 23:08	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/24/10 23:08	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		04/24/10 23:08	460-00-4	
Dibromofluoromethane (S)	102	%	85-115	1		04/24/10 23:08	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120	1		04/24/10 23:08	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		04/24/10 23:08	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-11D **Lab ID: 9267909013** Collected: 04/22/10 14:05 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:54		
Collected Date	**4/22/10**			1		04/28/10 15:54		
Collected Time	**14:05**			1		04/28/10 15:54		
Field pH	**6.54**	Std. Units		1		04/28/10 15:54		
Field Temperature	**13.8**	deg C		1		04/28/10 15:54		
Static Water Level	**86.47**	feet		1		04/28/10 15:54		
Field Specific Conductance	**96**	umhos/cm		1		04/28/10 15:54		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7440-38-2	
Barium	**43.5**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:06	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:06	7440-43-9	
Chromium	**10.9**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7440-50-8	
Lead	**10.5**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7439-92-1	
Nickel	**9.6**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:06	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 22:06	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:06	7440-62-2	
Zinc	**14.2**	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:06	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/24/10 23:32	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/24/10 23:32	107-13-1	
Benzene	ND	ug/L	1.0	1		04/24/10 23:32	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/24/10 23:32	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/24/10 23:32	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/24/10 23:32	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/24/10 23:32	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/24/10 23:32	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/24/10 23:32	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/24/10 23:32	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/24/10 23:32	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/24/10 23:32	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/24/10 23:32	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/24/10 23:32	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/24/10 23:32	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/24/10 23:32	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/24/10 23:32	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/24/10 23:32	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 23:32	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 23:32	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-11D **Lab ID: 9267909013** Collected: 04/22/10 14:05 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/24/10 23:32	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/24/10 23:32	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/24/10 23:32	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/24/10 23:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 23:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 23:32	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/24/10 23:32	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 23:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 23:32	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/24/10 23:32	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/24/10 23:32	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/24/10 23:32	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/24/10 23:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/24/10 23:32	108-10-1	
Styrene	ND	ug/L	1.0	1		04/24/10 23:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 23:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 23:32	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/24/10 23:32	127-18-4	
Toluene	ND	ug/L	1.0	1		04/24/10 23:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/24/10 23:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/24/10 23:32	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/24/10 23:32	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/24/10 23:32	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/24/10 23:32	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/24/10 23:32	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/24/10 23:32	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/24/10 23:32	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/24/10 23:32	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/24/10 23:32	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		04/24/10 23:32	460-00-4	
Dibromofluoromethane (S)	101	%	85-115	1		04/24/10 23:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		04/24/10 23:32	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		04/24/10 23:32	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-14 **Lab ID: 9267909014** Collected: 04/22/10 15:40 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:55		
Collected Date	**4/22/10**			1		04/28/10 15:55		
Collected Time	**15:40**			1		04/28/10 15:55		
Field pH	**6.33**	Std. Units		1		04/28/10 15:55		
Field Temperature	**13.9**	deg C		1		04/28/10 15:55		
Static Water Level	**102.89**	feet		1		04/28/10 15:55		
Field Specific Conductance	**82**	umhos/cm		1		04/28/10 15:55		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7440-38-2	
Barium	**153**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:09	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:09	7440-43-9	
Chromium	**13.1**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7439-92-1	
Nickel	**7.6**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:09	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 22:09	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:09	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:09	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/24/10 23:56	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/24/10 23:56	107-13-1	
Benzene	ND	ug/L	1.0	1		04/24/10 23:56	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/24/10 23:56	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/24/10 23:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/24/10 23:56	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/24/10 23:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/24/10 23:56	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/24/10 23:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/24/10 23:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/24/10 23:56	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/24/10 23:56	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/24/10 23:56	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/24/10 23:56	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/24/10 23:56	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/24/10 23:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/24/10 23:56	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/24/10 23:56	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 23:56	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/24/10 23:56	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-14 **Lab ID: 9267909014** Collected: 04/22/10 15:40 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/24/10 23:56	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/24/10 23:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/24/10 23:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/24/10 23:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 23:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/24/10 23:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/24/10 23:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 23:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/24/10 23:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/24/10 23:56	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/24/10 23:56	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/24/10 23:56	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/24/10 23:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/24/10 23:56	108-10-1	
Styrene	ND	ug/L	1.0	1		04/24/10 23:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 23:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/24/10 23:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/24/10 23:56	127-18-4	
Toluene	ND	ug/L	1.0	1		04/24/10 23:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/24/10 23:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/24/10 23:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/24/10 23:56	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/24/10 23:56	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/24/10 23:56	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/24/10 23:56	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/24/10 23:56	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/24/10 23:56	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/24/10 23:56	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/24/10 23:56	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		04/24/10 23:56	460-00-4	
Dibromofluoromethane (S)	101	%	85-115	1		04/24/10 23:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120	1		04/24/10 23:56	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		04/24/10 23:56	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-15 **Lab ID: 9267909015** Collected: 04/22/10 14:30 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:55		
Collected Date	**4/22/10**			1		04/28/10 15:55		
Collected Time	**14:30**			1		04/28/10 15:55		
Field pH	**5.69**	Std. Units		1		04/28/10 15:55		
Field Temperature	**12.7**	deg C		1		04/28/10 15:55		
Static Water Level	**6.15**	feet		1		04/28/10 15:55		
Field Specific Conductance	**83**	umhos/cm		1		04/28/10 15:55		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7440-38-2	
Barium	**74.8**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:12	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:12	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7440-50-8	
Lead	**9.2**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:12	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 22:12	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:12	7440-62-2	
Zinc	**24.6**	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:12	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 00:20	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/25/10 00:20	107-13-1	
Benzene	ND	ug/L	1.0	1		04/25/10 00:20	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 00:20	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 00:20	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 00:20	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 00:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 00:20	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/25/10 00:20	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 00:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 00:20	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 00:20	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 00:20	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 00:20	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 00:20	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 00:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 00:20	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 00:20	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 00:20	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 00:20	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: MW-15 **Lab ID: 9267909015** Collected: 04/22/10 14:30 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/25/10 00:20	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 00:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 00:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 00:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 00:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 00:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 00:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 00:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 00:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 00:20	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/25/10 00:20	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/25/10 00:20	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 00:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/10 00:20	108-10-1	
Styrene	ND	ug/L	1.0	1		04/25/10 00:20	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 00:20	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 00:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 00:20	127-18-4	
Toluene	ND	ug/L	1.0	1		04/25/10 00:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 00:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 00:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 00:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 00:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 00:20	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 00:20	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 00:20	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/25/10 00:20	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 00:20	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 00:20	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		04/25/10 00:20	460-00-4	
Dibromofluoromethane (S)	102	%	85-115	1		04/25/10 00:20	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		04/25/10 00:20	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		04/25/10 00:20	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: P2 **Lab ID: 9267909016** Collected: 04/22/10 13:30 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		04/28/10 15:58		
Collected Date	**4/22/10**			1		04/28/10 15:58		
Collected Time	**13:30**			1		04/28/10 15:58		
Field pH	**6.46**	Std. Units		1		04/28/10 15:58		
Field Temperature	**14.1**	deg C		1		04/28/10 15:58		
Static Water Level	**71.63**	feet		1		04/28/10 15:58		
Field Specific Conductance	**138**	umhos/cm		1		04/28/10 15:58		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7440-38-2	
Barium	**64.0**	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:15	7440-41-7	
Cadmium	**10.0**	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:15	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:15	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 22:15	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:15	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:15	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 11:10	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/25/10 11:10	107-13-1	
Benzene	ND	ug/L	1.0	1		04/25/10 11:10	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 11:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 11:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 11:10	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 11:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 11:10	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/25/10 11:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 11:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 11:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 11:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 11:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 11:10	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 11:10	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 11:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 11:10	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 11:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 11:10	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 11:10	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: P2 **Lab ID: 9267909016** Collected: 04/22/10 13:30 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/25/10 11:10	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 11:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 11:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 11:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 11:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 11:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 11:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 11:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 11:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 11:10	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/25/10 11:10	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/25/10 11:10	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 11:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/10 11:10	108-10-1	
Styrene	ND	ug/L	1.0	1		04/25/10 11:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 11:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 11:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 11:10	127-18-4	
Toluene	ND	ug/L	1.0	1		04/25/10 11:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 11:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 11:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 11:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 11:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 11:10	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 11:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 11:10	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/25/10 11:10	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 11:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 11:10	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109	1		04/25/10 11:10	460-00-4	
Dibromofluoromethane (S)	102	%	85-115	1		04/25/10 11:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	79-120	1		04/25/10 11:10	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		04/25/10 11:10	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: TRAVEL BLK **Lab ID: 9267909017** Collected: 04/21/10 00:00 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 11:34	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/25/10 11:34	107-13-1	
Benzene	ND	ug/L	1.0	1		04/25/10 11:34	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 11:34	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 11:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 11:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 11:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 11:34	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/25/10 11:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 11:34	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 11:34	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 11:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 11:34	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 11:34	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 11:34	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 11:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 11:34	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 11:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 11:34	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 11:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/25/10 11:34	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 11:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 11:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 11:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 11:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 11:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 11:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 11:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 11:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 11:34	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		04/25/10 11:34	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/25/10 11:34	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 11:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/10 11:34	108-10-1	
Styrene	ND	ug/L	1.0	1		04/25/10 11:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 11:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 11:34	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 11:34	127-18-4	
Toluene	ND	ug/L	1.0	1		04/25/10 11:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 11:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 11:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 11:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 11:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 11:34	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 11:34	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 11:34	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/25/10 11:34	1330-20-7	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: TRAVEL BLK **Lab ID: 9267909017** Collected: 04/21/10 00:00 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 11:34	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 11:34	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109	1		04/25/10 11:34	460-00-4	
Dibromofluoromethane (S)	104	%	85-115	1		04/25/10 11:34	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		04/25/10 11:34	17060-07-0	
Toluene-d8 (S)	102	%	70-120	1		04/25/10 11:34	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: EQUIP BLK **Lab ID: 9267909018** Collected: 04/21/10 00:00 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7440-36-0	
Arsenic	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7440-38-2	
Barium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:18	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/28/10 15:40	04/29/10 22:18	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7440-47-3	
Cobalt	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7440-48-4	
Copper	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7440-50-8	
Lead	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7439-92-1	
Nickel	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:18	7782-49-2	
Silver	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7440-22-4	
Thallium	ND	ug/L	5.4	1	04/28/10 15:40	04/29/10 22:18	7440-28-0	
Vanadium	ND	ug/L	5.0	1	04/28/10 15:40	04/29/10 22:18	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/28/10 15:40	04/29/10 22:18	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		04/25/10 11:58	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		04/25/10 11:58	107-13-1	
Benzene	ND	ug/L	1.0	1		04/25/10 11:58	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		04/25/10 11:58	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/25/10 11:58	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/25/10 11:58	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/25/10 11:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		04/25/10 11:58	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		04/25/10 11:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/25/10 11:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		04/25/10 11:58	108-90-7	
Chloroethane	ND	ug/L	1.0	1		04/25/10 11:58	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/25/10 11:58	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/25/10 11:58	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		04/25/10 11:58	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		04/25/10 11:58	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/25/10 11:58	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		04/25/10 11:58	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 11:58	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/25/10 11:58	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		04/25/10 11:58	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		04/25/10 11:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/25/10 11:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		04/25/10 11:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 11:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/25/10 11:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/25/10 11:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 11:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/25/10 11:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		04/25/10 11:58	100-41-4	

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ANALYTICAL RESULTS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

Sample: EQUIP BLK **Lab ID: 9267909018** Collected: 04/21/10 00:00 Received: 04/22/10 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
2-Hexanone	ND	ug/L	5.0	1		04/25/10 11:58	591-78-6	
Iodomethane	ND	ug/L	5.0	1		04/25/10 11:58	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		04/25/10 11:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		04/25/10 11:58	108-10-1	
Styrene	ND	ug/L	1.0	1		04/25/10 11:58	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 11:58	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/25/10 11:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/25/10 11:58	127-18-4	
Toluene	ND	ug/L	1.0	1		04/25/10 11:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/25/10 11:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/25/10 11:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/25/10 11:58	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/25/10 11:58	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/25/10 11:58	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		04/25/10 11:58	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/25/10 11:58	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		04/25/10 11:58	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		04/25/10 11:58	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		04/25/10 11:58	95-47-6	
4-Bromofluorobenzene (S)	100	%	87-109	1		04/25/10 11:58	460-00-4	
Dibromofluoromethane (S)	101	%	85-115	1		04/25/10 11:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	97	%	79-120	1		04/25/10 11:58	17060-07-0	
Toluene-d8 (S)	102	%	70-120	1		04/25/10 11:58	2037-26-5	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: MPRP/6216 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 9267909002, 9267909003, 9267909004, 9267909005

METHOD BLANK: 434122 — Matrix: Water
Associated Lab Samples: 9267909002, 9267909003, 9267909004, 9267909005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	05/01/10 04:23	
Arsenic	ug/L	ND	5.0	05/01/10 04:23	
Barium	ug/L	ND	5.0	05/01/10 04:23	
Beryllium	ug/L	ND	1.0	05/01/10 04:23	
Cadmium	ug/L	ND	1.0	05/01/10 04:23	
Chromium	ug/L	ND	5.0	05/01/10 04:23	
Cobalt	ug/L	ND	5.0	05/01/10 04:23	
Copper	ug/L	ND	5.0	05/01/10 04:23	
Lead	ug/L	ND	5.0	05/01/10 04:23	
Nickel	ug/L	ND	5.0	05/01/10 04:23	
Selenium	ug/L	ND	10.0	05/01/10 04:23	
Silver	ug/L	ND	5.0	05/01/10 04:23	
Thallium	ug/L	ND	5.4	05/01/10 04:23	
Vanadium	ug/L	ND	5.0	05/01/10 04:23	
Zinc	ug/L	ND	10.0	05/01/10 04:23	

LABORATORY CONTROL SAMPLE: 434123

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	467	93	80-120	
Arsenic	ug/L	500	463	93	80-120	
Barium	ug/L	500	486	97	80-120	
Beryllium	ug/L	500	489	98	80-120	
Cadmium	ug/L	500	464	93	80-120	
Chromium	ug/L	500	470	94	80-120	
Cobalt	ug/L	500	475	95	80-120	
Copper	ug/L	500	483	97	80-120	
Lead	ug/L	500	469	94	80-120	
Nickel	ug/L	500	464	93	80-120	
Selenium	ug/L	500	462	92	80-120	
Silver	ug/L	250	214	86	80-120	
Thallium	ug/L	500	462	92	80-120	
Vanadium	ug/L	500	482	96	80-120	
Zinc	ug/L	500	460	92	80-120	

MATRIX SPIKE SAMPLE: 434124

Parameter	Units	9267837007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	ND	500	198	39	75-125	M0
Arsenic	ug/L	25.4	500	368	69	75-125	M0

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

MATRIX SPIKE SAMPLE: 434124

Parameter	Units	9267837007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	782	500	1180	79	75-125	
Beryllium	ug/L	5.9	500	398	78	75-125	
Cadmium	ug/L	ND	500	374	75	75-125	
Chromium	ug/L	117	500	502	77	75-125	
Cobalt	ug/L	63.0	500	424	72	75-125	M0
Copper	ug/L	25.4	500	418	79	75-125	
Lead	ug/L	23.4	500	388	73	75-125	M0
Nickel	ug/L	55.4	500	432	75	75-125	
Selenium	ug/L	ND	500	368	73	75-125	M0
Silver	ug/L	ND	250	175	70	75-125	M0
Thallium	ug/L	ND	500	348	70	75-125	M0
Vanadium	ug/L	170	500	564	79	75-125	
Zinc	ug/L	270	500	652	76	75-125	

SAMPLE DUPLICATE: 434125

Parameter	Units	9267837008 Result	Dup Result	RPD	Qualifiers
Antimony	ug/L	3.1J	ND		
Arsenic	ug/L	ND	ND		
Barium	ug/L	51.4	51.0	1	
Beryllium	ug/L	ND	ND		
Cadmium	ug/L	ND	ND		
Chromium	ug/L	2.8J	3J		
Cobalt	ug/L	0.91J	1.2J		
Copper	ug/L	1.4J	1.3J		
Lead	ug/L	ND	ND		
Nickel	ug/L	ND	ND		
Selenium	ug/L	ND	ND		
Silver	ug/L	0.42J	.36J		
Thallium	ug/L	4.2J	ND		
Vanadium	ug/L	6.9	6.9	1	
Zinc	ug/L	62.8	62.1	1	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: MPRP/6223 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 9267909006, 9267909007, 9267909008, 9267909009, 9267909010, 9267909011, 9267909012, 9267909013, 9267909014, 9267909015, 9267909016, 9267909018

METHOD BLANK: 434811 Matrix: Water
Associated Lab Samples: 9267909006, 9267909007, 9267909008, 9267909009, 9267909010, 9267909011, 9267909012, 9267909013, 9267909014, 9267909015, 9267909016, 9267909018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	04/29/10 21:20	
Arsenic	ug/L	ND	5.0	04/29/10 21:20	
Barium	ug/L	ND	5.0	04/29/10 21:20	
Beryllium	ug/L	ND	1.0	04/29/10 21:20	
Cadmium	ug/L	ND	1.0	04/29/10 21:20	
Chromium	ug/L	ND	5.0	04/29/10 21:20	
Cobalt	ug/L	ND	5.0	04/29/10 21:20	
Copper	ug/L	ND	5.0	04/29/10 21:20	
Lead	ug/L	ND	5.0	04/29/10 21:20	
Nickel	ug/L	ND	5.0	04/29/10 21:20	
Selenium	ug/L	ND	10.0	04/29/10 21:20	
Silver	ug/L	ND	5.0	04/29/10 21:20	
Thallium	ug/L	ND	5.4	04/29/10 21:20	
Vanadium	ug/L	ND	5.0	04/29/10 21:20	
Zinc	ug/L	ND	10.0	04/29/10 21:20	

LABORATORY CONTROL SAMPLE: 434812

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	481	96	80-120	
Arsenic	ug/L	500	479	96	80-120	
Barium	ug/L	500	498	100	80-120	
Beryllium	ug/L	500	485	97	80-120	
Cadmium	ug/L	500	496	99	80-120	
Chromium	ug/L	500	488	98	80-120	
Cobalt	ug/L	500	493	99	80-120	
Copper	ug/L	500	488	98	80-120	
Lead	ug/L	500	497	99	80-120	
Nickel	ug/L	500	494	99	80-120	
Selenium	ug/L	500	482	96	80-120	
Silver	ug/L	250	221	88	80-120	
Thallium	ug/L	500	479	96	80-120	
Vanadium	ug/L	500	484	97	80-120	
Zinc	ug/L	500	493	99	80-120	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 434813 434814

Parameter	Units	9268042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	ug/L	ND	500	500	487	487	97	97	75-125	0	
Arsenic	ug/L	3.4J	500	500	491	493	98	98	75-125	0	
Barium	ug/L	77.9J	500	500	574	578	99	100	75-125	1	
Beryllium	ug/L	ND	500	500	494	502	99	100	75-125	2	
Cadmium	ug/L	ND	500	500	497	497	99	99	75-125	0	
Chromium	ug/L	ND	500	500	498	497	100	99	75-125	0	
Cobalt	ug/L	9.2J	500	500	503	503	99	99	75-125	0	
Copper	ug/L	ND	500	500	495	496	99	99	75-125	0	
Lead	ug/L	ND	500	500	496	495	99	99	75-125	0	
Nickel	ug/L	ND	500	500	494	494	99	99	75-125	0	
Selenium	ug/L	5.3J	500	500	495	492	98	97	75-125	1	
Silver	ug/L	ND	250	250	224	222	90	89	75-125	1	
Thallium	ug/L	3.2J	500	500	482	484	96	96	75-125	0	
Vanadium	ug/L	0.38J	500	500	491	491	98	98	75-125	0	
Zinc	ug/L	15.9	500	500	513	513	99	99	75-125	0	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: MPRP/6232
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 9267909001

METHOD BLANK: 435140
Matrix: Water
Associated Lab Samples: 9267909001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	04/30/10 23:11	
Arsenic	ug/L	ND	5.0	04/30/10 23:11	
Barium	ug/L	ND	5.0	04/30/10 23:11	
Beryllium	ug/L	ND	1.0	04/30/10 23:11	
Cadmium	ug/L	ND	1.0	04/30/10 23:11	
Chromium	ug/L	ND	5.0	04/30/10 23:11	
Cobalt	ug/L	ND	5.0	04/30/10 23:11	
Copper	ug/L	ND	5.0	04/30/10 23:11	
Lead	ug/L	ND	5.0	04/30/10 23:11	
Nickel	ug/L	ND	5.0	04/30/10 23:11	
Selenium	ug/L	ND	10.0	04/30/10 23:11	
Silver	ug/L	ND	5.0	04/30/10 23:11	
Thallium	ug/L	ND	10.0	04/30/10 23:11	
Vanadium	ug/L	ND	5.0	04/30/10 23:11	
Zinc	ug/L	ND	10.0	04/30/10 23:11	

LABORATORY CONTROL SAMPLE: 435141

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	481	96	80-120	
Arsenic	ug/L	500	482	96	80-120	
Barium	ug/L	500	497	99	80-120	
Beryllium	ug/L	500	531	106	80-120	
Cadmium	ug/L	500	479	96	80-120	
Chromium	ug/L	500	485	97	80-120	
Cobalt	ug/L	500	508	102	80-120	
Copper	ug/L	500	491	98	80-120	
Lead	ug/L	500	482	96	80-120	
Nickel	ug/L	500	480	96	80-120	
Selenium	ug/L	500	478	96	80-120	
Silver	ug/L	250	219	88	80-120	
Thallium	ug/L	500	470	94	80-120	
Vanadium	ug/L	500	496	99	80-120	
Zinc	ug/L	500	476	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 435142 435143

Parameter	Units	9268001006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	ug/L	5.3	500	500	508	509	101	101	75-125	0	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 435142 435143

Parameter	Units	9268001006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Arsenic	ug/L	ND	500	500	508	507	101	101	75-125	0	
Barium	ug/L	47.3	500	500	541	544	99	99	75-125	1	
Beryllium	ug/L	ND	500	500	542	523	108	105	75-125	4	
Cadmium	ug/L	ND	500	500	481	474	96	95	75-125	1	
Chromium	ug/L	104	500	500	588	583	97	96	75-125	1	
Cobalt	ug/L	ND	500	500	480	477	96	95	75-125	1	
Copper	ug/L	ND	500	500	509	513	102	103	75-125	1	
Lead	ug/L	ND	500	500	479	476	96	95	75-125	1	
Nickel	ug/L	ND	500	500	468	463	94	93	75-125	1	
Selenium	ug/L	ND	500	500	501	500	100	100	75-125	0	
Silver	ug/L	ND	250	250	225	224	90	90	75-125	0	
Thallium	ug/L	ND	500	500	470	476	93	95	75-125	1	
Vanadium	ug/L	ND	500	500	511	509	101	101	75-125	0	
Zinc	ug/L	ND	500	500	487	480	97	96	75-125	1	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: MSV/10728 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9267909001, 9267909002, 9267909003, 9267909004, 9267909005, 9267909006

METHOD BLANK: 433549 Matrix: Water
Associated Lab Samples: 9267909001, 9267909002, 9267909003, 9267909004, 9267909005, 9267909006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	04/24/10 22:47	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/24/10 22:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/24/10 22:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/24/10 22:47	
1,1-Dichloroethane	ug/L	ND	1.0	04/24/10 22:47	
1,1-Dichloroethene	ug/L	ND	1.0	04/24/10 22:47	
1,1-Dichloropropene	ug/L	ND	1.0	04/24/10 22:47	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	04/24/10 22:47	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/24/10 22:47	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	04/24/10 22:47	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	04/24/10 22:47	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/24/10 22:47	
1,2-Dichlorobenzene	ug/L	ND	1.0	04/24/10 22:47	
1,2-Dichloroethane	ug/L	ND	1.0	04/24/10 22:47	
1,2-Dichloropropane	ug/L	ND	1.0	04/24/10 22:47	
1,3-Dichlorobenzene	ug/L	ND	1.0	04/24/10 22:47	
1,3-Dichloropropane	ug/L	ND	1.0	04/24/10 22:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/24/10 22:47	
2,2-Dichloropropane	ug/L	ND	1.0	04/24/10 22:47	
2-Butanone (MEK)	ug/L	ND	5.0	04/24/10 22:47	
2-Chlorotoluene	ug/L	ND	1.0	04/24/10 22:47	
2-Hexanone	ug/L	ND	5.0	04/24/10 22:47	
4-Chlorotoluene	ug/L	ND	1.0	04/24/10 22:47	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	04/24/10 22:47	
Acetone	ug/L	ND	25.0	04/24/10 22:47	
Acrylonitrile	ug/L	ND	10.0	04/24/10 22:47	
Benzene	ug/L	ND	1.0	04/24/10 22:47	
Bromobenzene	ug/L	ND	1.0	04/24/10 22:47	
Bromochloromethane	ug/L	ND	1.0	04/24/10 22:47	
Bromodichloromethane	ug/L	ND	1.0	04/24/10 22:47	
Bromoform	ug/L	ND	1.0	04/24/10 22:47	
Bromomethane	ug/L	ND	5.0	04/24/10 22:47	
Carbon disulfide	ug/L	ND	2.0	04/24/10 22:47	
Carbon tetrachloride	ug/L	ND	1.0	04/24/10 22:47	
Chlorobenzene	ug/L	ND	1.0	04/24/10 22:47	
Chloroethane	ug/L	ND	1.0	04/24/10 22:47	
Chloroform	ug/L	ND	1.0	04/24/10 22:47	
Chloromethane	ug/L	ND	1.0	04/24/10 22:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/24/10 22:47	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/24/10 22:47	
Dibromochloromethane	ug/L	ND	1.0	04/24/10 22:47	
Dibromomethane	ug/L	ND	1.0	04/24/10 22:47	
Dichlorodifluoromethane	ug/L	ND	1.0	04/24/10 22:47	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

METHOD BLANK: 433549 Matrix: Water

Associated Lab Samples: 9267909001, 9267909002, 9267909003, 9267909004, 9267909005, 9267909006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	04/24/10 22:47	
Ethylbenzene	ug/L	ND	1.0	04/24/10 22:47	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	04/24/10 22:47	
Iodomethane	ug/L	ND	5.0	04/24/10 22:47	
m&p-Xylene	ug/L	ND	2.0	04/24/10 22:47	
Methyl-tert-butyl ether	ug/L	ND	1.0	04/24/10 22:47	
Methylene Chloride	ug/L	ND	2.0	04/24/10 22:47	
Naphthalene	ug/L	ND	1.0	04/24/10 22:47	
o-Xylene	ug/L	ND	1.0	04/24/10 22:47	
p-Isopropyltoluene	ug/L	ND	1.0	04/24/10 22:47	
Styrene	ug/L	ND	1.0	04/24/10 22:47	
Tetrachloroethene	ug/L	ND	1.0	04/24/10 22:47	
Toluene	ug/L	ND	1.0	04/24/10 22:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/24/10 22:47	
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/24/10 22:47	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	04/24/10 22:47	
Trichloroethene	ug/L	ND	1.0	04/24/10 22:47	
Trichlorofluoromethane	ug/L	ND	1.0	04/24/10 22:47	
Vinyl acetate	ug/L	ND	2.0	04/24/10 22:47	
Vinyl chloride	ug/L	ND	1.0	04/24/10 22:47	
Xylene (Total)	ug/L	ND	2.0	04/24/10 22:47	
1,2-Dichloroethane-d4 (S)	%	97	79-120	04/24/10 22:47	
4-Bromofluorobenzene (S)	%	100	87-109	04/24/10 22:47	
Dibromofluoromethane (S)	%	101	85-115	04/24/10 22:47	
Toluene-d8 (S)	%	102	70-120	04/24/10 22:47	

LABORATORY CONTROL SAMPLE: 433550

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	51.1	102	83-125	
1,1,1-Trichloroethane	ug/L	50	49.2	98	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	47.0	94	73-127	
1,1,2-Trichloroethane	ug/L	50	51.1	102	77-123	
1,1-Dichloroethane	ug/L	50	51.0	102	76-129	
1,1-Dichloroethene	ug/L	50	47.2	94	78-146	
1,1-Dichloropropene	ug/L	50	45.7	91	79-134	
1,2,3-Trichlorobenzene	ug/L	50	50.7	101	70-150	
1,2,3-Trichloropropane	ug/L	50	50.0	100	72-125	
1,2,4-Trichlorobenzene	ug/L	50	48.6	97	68-127	
1,2-Dibromo-3-chloropropane	ug/L	50	48.8	98	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	49.9	100	81-125	
1,2-Dichlorobenzene	ug/L	50	48.9	98	82-126	
1,2-Dichloroethane	ug/L	50	47.4	95	72-126	
1,2-Dichloropropane	ug/L	50	49.8	100	80-127	
1,3-Dichlorobenzene	ug/L	50	47.4	95	82-124	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

LABORATORY CONTROL SAMPLE: 433550

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	48.2	96	79-124	
1,4-Dichlorobenzene	ug/L	50	47.8	96	79-125	
2,2-Dichloropropane	ug/L	50	42.9	86	58-140	
2-Butanone (MEK)	ug/L	100	97.8	98	50-134	
2-Chlorotoluene	ug/L	50	46.7	93	81-126	
2-Hexanone	ug/L	100	101	101	58-138	
4-Chlorotoluene	ug/L	50	49.3	99	82-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	70-131	
Acetone	ug/L	100	112	112	50-146	
Acrylonitrile	ug/L	250	247	99	66-124	
Benzene	ug/L	50	47.6	95	78-128	
Bromobenzene	ug/L	50	47.9	96	81-127	
Bromochloromethane	ug/L	50	42.4	85	73-124	
Bromodichloromethane	ug/L	50	47.5	95	81-125	
Bromoform	ug/L	50	51.4	103	71-125	
Bromomethane	ug/L	50	27.2	54	50-150	
Carbon disulfide	ug/L	50	44.8	90	54-150	
Carbon tetrachloride	ug/L	50	50.5	101	81-137	
Chlorobenzene	ug/L	50	50.1	100	82-126	
Chloroethane	ug/L	50	49.6	99	69-140	
Chloroform	ug/L	50	47.4	95	77-129	
Chloromethane	ug/L	50	44.2	88	54-139	
cis-1,2-Dichloroethene	ug/L	50	50.6	101	76-133	
cis-1,3-Dichloropropene	ug/L	50	47.3	95	76-127	
Dibromochloromethane	ug/L	50	48.3	97	77-125	
Dibromomethane	ug/L	50	51.3	103	77-125	
Dichlorodifluoromethane	ug/L	50	41.4	83	50-150	
Diisopropyl ether	ug/L	50	48.8	98	74-131	
Ethylbenzene	ug/L	50	49.3	99	80-127	
Hexachloro-1,3-butadiene	ug/L	50	46.6	93	78-145	
Iodomethane	ug/L	100	73.9	74	65-172	
m&p-Xylene	ug/L	100	101	101	82-127	
Methyl-tert-butyl ether	ug/L	50	49.5	99	71-130	
Methylene Chloride	ug/L	50	43.7	87	67-133	
Naphthalene	ug/L	50	51.6	103	52-136	
o-Xylene	ug/L	50	50.7	101	83-124	
p-Isopropyltoluene	ug/L	50	47.8	96	73-122	
Styrene	ug/L	50	50.2	100	80-130	
Tetrachloroethene	ug/L	50	49.4	99	78-128	
Toluene	ug/L	50	49.1	98	76-126	
trans-1,2-Dichloroethene	ug/L	50	47.4	95	78-134	
trans-1,3-Dichloropropene	ug/L	50	47.1	94	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	46.2	92	51-140	
Trichloroethene	ug/L	50	49.1	98	79-127	
Trichlorofluoromethane	ug/L	50	50.5	101	76-148	
Vinyl acetate	ug/L	100	103	103	50-150	
Vinyl chloride	ug/L	50	46.9	94	67-143	
Xylene (Total)	ug/L	150	152	101	83-125	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

LABORATORY CONTROL SAMPLE: 433550

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			100	79-120	
4-Bromofluorobenzene (S)	%			106	87-109	
Dibromofluoromethane (S)	%			99	85-115	
Toluene-d8 (S)	%			100	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 433551 433552

Parameter	Units	9267909006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	52.0	51.8	104	104	60-150	0	
Benzene	ug/L	ND	50	50	55.4	53.7	111	107	74-136	3	
Chlorobenzene	ug/L	ND	50	50	58.1	54.4	116	109	79-135	7	
Toluene	ug/L	ND	50	50	57.2	55.2	114	110	73-131	3	
Trichloroethene	ug/L	ND	50	50	57.2	56.1	114	112	73-131	2	
1,2-Dichloroethane-d4 (S)	%						97	97	79-120		
4-Bromofluorobenzene (S)	%						103	100	87-109		
Dibromofluoromethane (S)	%						101	102	85-115		
Toluene-d8 (S)	%						99	98	70-120		

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: MSV/10734 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9267909007, 9267909008, 9267909009, 9267909010, 9267909011, 9267909012, 9267909013, 9267909014, 9267909015

METHOD BLANK: 433622 — Matrix: Water
Associated Lab Samples: 9267909007, 9267909008, 9267909009, 9267909010, 9267909011, 9267909012, 9267909013, 9267909014, 9267909015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	04/24/10 16:19	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/24/10 16:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/24/10 16:19	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/24/10 16:19	
1,1-Dichloroethane	ug/L	ND	1.0	04/24/10 16:19	
1,1-Dichloroethene	ug/L	ND	1.0	04/24/10 16:19	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/24/10 16:19	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	04/24/10 16:19	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/24/10 16:19	
1,2-Dichlorobenzene	ug/L	ND	1.0	04/24/10 16:19	
1,2-Dichloroethane	ug/L	ND	1.0	04/24/10 16:19	
1,2-Dichloropropane	ug/L	ND	1.0	04/24/10 16:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/24/10 16:19	
2-Butanone (MEK)	ug/L	ND	5.0	04/24/10 16:19	
2-Hexanone	ug/L	ND	5.0	04/24/10 16:19	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	04/24/10 16:19	
Acetone	ug/L	ND	25.0	04/24/10 16:19	
Acrylonitrile	ug/L	ND	10.0	04/24/10 16:19	
Benzene	ug/L	ND	1.0	04/24/10 16:19	
Bromochloromethane	ug/L	ND	1.0	04/24/10 16:19	
Bromodichloromethane	ug/L	ND	1.0	04/24/10 16:19	
Bromoform	ug/L	ND	1.0	04/24/10 16:19	
Bromomethane	ug/L	ND	5.0	04/24/10 16:19	
Carbon disulfide	ug/L	ND	2.0	04/24/10 16:19	
Carbon tetrachloride	ug/L	ND	1.0	04/24/10 16:19	
Chlorobenzene	ug/L	ND	1.0	04/24/10 16:19	
Chloroethane	ug/L	ND	1.0	04/24/10 16:19	
Chloroform	ug/L	ND	1.0	04/24/10 16:19	
Chloromethane	ug/L	ND	1.0	04/24/10 16:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/24/10 16:19	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/24/10 16:19	
Dibromochloromethane	ug/L	ND	1.0	04/24/10 16:19	
Dibromomethane	ug/L	ND	1.0	04/24/10 16:19	
Ethylbenzene	ug/L	ND	1.0	04/24/10 16:19	
Iodomethane	ug/L	ND	5.0	04/24/10 16:19	
m&p-Xylene	ug/L	ND	2.0	04/24/10 16:19	
Methylene Chloride	ug/L	3.5	2.0	04/24/10 16:19	C9
o-Xylene	ug/L	ND	1.0	04/24/10 16:19	
Styrene	ug/L	ND	1.0	04/24/10 16:19	
Tetrachloroethene	ug/L	ND	1.0	04/24/10 16:19	
Toluene	ug/L	ND	1.0	04/24/10 16:19	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

METHOD BLANK: 433622 Matrix: Water

Associated Lab Samples: 9267909007, 9267909008, 9267909009, 9267909010, 9267909011, 9267909012, 9267909013, 9267909014, 9267909015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/24/10 16:19	
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/24/10 16:19	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	04/24/10 16:19	
Trichloroethene	ug/L	ND	1.0	04/24/10 16:19	
Trichlorofluoromethane	ug/L	ND	1.0	04/24/10 16:19	
Vinyl acetate	ug/L	ND	2.0	04/24/10 16:19	
Vinyl chloride	ug/L	ND	1.0	04/24/10 16:19	
Xylene (Total)	ug/L	ND	2.0	04/24/10 16:19	
1,2-Dichloroethane-d4 (S)	%	95	79-120	04/24/10 16:19	
4-Bromofluorobenzene (S)	%	98	87-109	04/24/10 16:19	
Dibromofluoromethane (S)	%	100	85-115	04/24/10 16:19	
Toluene-d8 (S)	%	99	70-120	04/24/10 16:19	

LABORATORY CONTROL SAMPLE: 433623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	54.3	109	83-125	
1,1,1-Trichloroethane	ug/L	50	52.3	105	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	51.2	102	73-127	
1,1,2-Trichloroethane	ug/L	50	55.0	110	77-123	
1,1-Dichloroethane	ug/L	50	53.5	107	76-129	
1,1-Dichloroethene	ug/L	50	49.3	99	78-146	
1,2,3-Trichloropropane	ug/L	50	54.4	109	72-125	
1,2-Dibromo-3-chloropropane	ug/L	50	47.6	95	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	48.1	96	81-125	
1,2-Dichlorobenzene	ug/L	50	54.6	109	82-126	
1,2-Dichloroethane	ug/L	50	51.8	104	72-126	
1,2-Dichloropropane	ug/L	50	52.2	104	80-127	
1,4-Dichlorobenzene	ug/L	50	53.7	107	79-125	
2-Butanone (MEK)	ug/L	100	109	109	50-134	
2-Hexanone	ug/L	100	113	113	58-138	
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	70-131	
Acetone	ug/L	100	111	111	50-146	
Acrylonitrile	ug/L	250	292	117	66-124	
Benzene	ug/L	50	50.5	101	78-128	
Bromochloromethane	ug/L	50	49.6	99	73-124	
Bromodichloromethane	ug/L	50	50.4	101	81-125	
Bromoform	ug/L	50	46.6	93	71-125	
Bromomethane	ug/L	50	31.2	62	50-150	
Carbon disulfide	ug/L	50	47.9	96	54-150	
Carbon tetrachloride	ug/L	50	59.4	119	81-137	
Chlorobenzene	ug/L	50	53.5	107	82-126	
Chloroethane	ug/L	50	48.6	97	69-140	
Chloroform	ug/L	50	51.0	102	77-129	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

LABORATORY CONTROL SAMPLE: 433623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloromethane	ug/L	50	29.6	59	54-139	
cis-1,2-Dichloroethene	ug/L	50	47.9	96	76-133	
cis-1,3-Dichloropropene	ug/L	50	44.0	88	76-127	
Dibromochloromethane	ug/L	50	51.9	104	77-125	
Dibromomethane	ug/L	50	53.2	106	77-125	
Ethylbenzene	ug/L	50	52.9	106	80-127	
Iodomethane	ug/L	100	71.7	72	65-172	
m&p-Xylene	ug/L	100	110	110	82-127	
Methylene Chloride	ug/L	50	46.6	93	67-133	
o-Xylene	ug/L	50	54.2	108	83-124	
Styrene	ug/L	50	55.0	110	80-130	
Tetrachloroethene	ug/L	50	53.1	106	78-128	
Toluene	ug/L	50	52.0	104	76-126	
trans-1,2-Dichloroethene	ug/L	50	49.5	99	78-134	
trans-1,3-Dichloropropene	ug/L	50	44.9	90	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	40.2	80	51-140	
Trichloroethene	ug/L	50	54.0	108	79-127	
Trichlorofluoromethane	ug/L	50	45.3	91	76-148	
Vinyl acetate	ug/L	100	99.9	100	50-150	
Vinyl chloride	ug/L	50	41.6	83	67-143	
Xylene (Total)	ug/L	150	164	110	83-125	
1,2-Dichloroethane-d4 (S)	%			97	79-120	
4-Bromofluorobenzene (S)	%			101	87-109	
Dibromofluoromethane (S)	%			97	85-115	
Toluene-d8 (S)	%			98	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 433624 433625

Parameter	Units	9267909014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	58.8	57.0	118	114	60-150	3	
Benzene	ug/L	ND	50	50	57.9	56.6	116	113	74-136	2	
Chlorobenzene	ug/L	ND	50	50	59.6	58.2	119	116	79-135	2	
Toluene	ug/L	ND	50	50	59.2	58.1	118	116	73-131	2	
Trichloroethene	ug/L	ND	50	50	60.7	59.2	121	118	73-131	2	
1,2-Dichloroethane-d4 (S)	%						99	99	79-120		
4-Bromofluorobenzene (S)	%						98	98	87-109		
Dibromofluoromethane (S)	%						99	101	85-115		
Toluene-d8 (S)	%						99	99	70-120		

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: MSV/10736 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9267909016, 9267909017, 9267909018

METHOD BLANK: 433644 — Matrix: Water
Associated Lab Samples: 9267909016, 9267909017, 9267909018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	04/25/10 10:46	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/25/10 10:46	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/25/10 10:46	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/25/10 10:46	
1,1-Dichloroethane	ug/L	ND	1.0	04/25/10 10:46	
1,1-Dichloroethene	ug/L	ND	1.0	04/25/10 10:46	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/25/10 10:46	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	04/25/10 10:46	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/25/10 10:46	
1,2-Dichlorobenzene	ug/L	ND	1.0	04/25/10 10:46	
1,2-Dichloroethane	ug/L	ND	1.0	04/25/10 10:46	
1,2-Dichloropropane	ug/L	ND	1.0	04/25/10 10:46	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/25/10 10:46	
2-Butanone (MEK)	ug/L	ND	5.0	04/25/10 10:46	
2-Hexanone	ug/L	ND	5.0	04/25/10 10:46	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	04/25/10 10:46	
Acetone	ug/L	ND	25.0	04/25/10 10:46	
Acrylonitrile	ug/L	ND	10.0	04/25/10 10:46	
Benzene	ug/L	ND	1.0	04/25/10 10:46	
Bromochloromethane	ug/L	ND	1.0	04/25/10 10:46	
Bromodichloromethane	ug/L	ND	1.0	04/25/10 10:46	
Bromoform	ug/L	ND	1.0	04/25/10 10:46	
Bromomethane	ug/L	ND	5.0	04/25/10 10:46	
Carbon disulfide	ug/L	ND	2.0	04/25/10 10:46	
Carbon tetrachloride	ug/L	ND	1.0	04/25/10 10:46	
Chlorobenzene	ug/L	ND	1.0	04/25/10 10:46	
Chloroethane	ug/L	ND	1.0	04/25/10 10:46	
Chloroform	ug/L	ND	1.0	04/25/10 10:46	
Chloromethane	ug/L	ND	1.0	04/25/10 10:46	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/25/10 10:46	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/25/10 10:46	
Dibromochloromethane	ug/L	ND	1.0	04/25/10 10:46	
Dibromomethane	ug/L	ND	1.0	04/25/10 10:46	
Ethylbenzene	ug/L	ND	1.0	04/25/10 10:46	
Iodomethane	ug/L	ND	5.0	04/25/10 10:46	
m&p-Xylene	ug/L	ND	2.0	04/25/10 10:46	
Methylene Chloride	ug/L	2.0	2.0	04/25/10 10:46	C9
o-Xylene	ug/L	ND	1.0	04/25/10 10:46	
Styrene	ug/L	ND	1.0	04/25/10 10:46	
Tetrachloroethene	ug/L	ND	1.0	04/25/10 10:46	
Toluene	ug/L	ND	1.0	04/25/10 10:46	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/25/10 10:46	
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/25/10 10:46	

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(704)875-9092

QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

METHOD BLANK: 433644 Matrix: Water

Associated Lab Samples: 9267909016, 9267909017, 9267909018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	04/25/10 10:46	
Trichloroethene	ug/L	ND	1.0	04/25/10 10:46	
Trichlorofluoromethane	ug/L	ND	1.0	04/25/10 10:46	
Vinyl acetate	ug/L	ND	2.0	04/25/10 10:46	
Vinyl chloride	ug/L	ND	1.0	04/25/10 10:46	
Xylene (Total)	ug/L	ND	2.0	04/25/10 10:46	
1,2-Dichloroethane-d4 (S)	%	95	79-120	04/25/10 10:46	
4-Bromofluorobenzene (S)	%	100	87-109	04/25/10 10:46	
Dibromofluoromethane (S)	%	100	85-115	04/25/10 10:46	
Toluene-d8 (S)	%	99	70-120	04/25/10 10:46	

LABORATORY CONTROL SAMPLE: 433645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.8	98	83-125	
1,1,1-Trichloroethane	ug/L	50	48.0	96	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	44.9	90	73-127	
1,1,2-Trichloroethane	ug/L	50	50.6	101	77-123	
1,1-Dichloroethane	ug/L	50	50.5	101	76-129	
1,1-Dichloroethene	ug/L	50	43.2	86	78-146	
1,2,3-Trichloropropane	ug/L	50	47.2	94	72-125	
1,2-Dibromo-3-chloropropane	ug/L	50	47.6	95	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	46.7	93	81-125	
1,2-Dichlorobenzene	ug/L	50	47.8	96	82-126	
1,2-Dichloroethane	ug/L	50	46.7	93	72-126	
1,2-Dichloropropane	ug/L	50	48.2	96	80-127	
1,4-Dichlorobenzene	ug/L	50	47.3	95	79-125	
2-Butanone (MEK)	ug/L	100	98.7	99	50-134	
2-Hexanone	ug/L	100	100	100	58-138	
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.7	100	70-131	
Acetone	ug/L	100	124	124	50-146	
Acrylonitrile	ug/L	250	250	100	66-124	
Benzene	ug/L	50	48.1	96	78-128	
Bromochloromethane	ug/L	50	49.5	99	73-124	
Bromodichloromethane	ug/L	50	47.3	95	81-125	
Bromoform	ug/L	50	48.5	97	71-125	
Bromomethane	ug/L	50	26.9	54	50-150	
Carbon disulfide	ug/L	50	45.8	92	54-150	
Carbon tetrachloride	ug/L	50	51.0	102	81-137	
Chlorobenzene	ug/L	50	48.3	97	82-126	
Chloroethane	ug/L	50	47.7	95	69-140	
Chloroform	ug/L	50	46.6	93	77-129	
Chloromethane	ug/L	50	43.2	86	54-139	
cis-1,2-Dichloroethene	ug/L	50	48.3	97	76-133	
cis-1,3-Dichloropropene	ug/L	50	49.4	99	76-127	

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(704)875-9092

QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

LABORATORY CONTROL SAMPLE: 433645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	50	47.9	96	77-125	
Dibromomethane	ug/L	50	52.5	105	77-125	
Ethylbenzene	ug/L	50	47.1	94	80-127	
Iodomethane	ug/L	100	79.9	80	65-172	
m&p-Xylene	ug/L	100	97.8	98	82-127	
Methylene Chloride	ug/L	50	42.6	85	67-133	
o-Xylene	ug/L	50	49.5	99	83-124	
Styrene	ug/L	50	48.7	97	80-130	
Tetrachloroethene	ug/L	50	48.6	97	78-128	
Toluene	ug/L	50	49.5	99	76-126	
trans-1,2-Dichloroethene	ug/L	50	46.0	92	78-134	
trans-1,3-Dichloropropene	ug/L	50	48.6	97	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	46.8	94	51-140	
Trichloroethene	ug/L	50	50.1	100	79-127	
Trichlorofluoromethane	ug/L	50	49.7	99	76-148	
Vinyl acetate	ug/L	100	113	113	50-150	
Vinyl chloride	ug/L	50	45.7	91	67-143	
Xylene (Total)	ug/L	150	147	98	83-125	
1,2-Dichloroethane-d4 (S)	%			99	79-120	
4-Bromofluorobenzene (S)	%			101	87-109	
Dibromofluoromethane (S)	%			100	85-115	
Toluene-d8 (S)	%			101	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 433646 433647

Parameter	Units	9268042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	52.4	50.7	105	101	60-150	3	
Benzene	ug/L	ND	50	50	53.3	53.0	107	106	74-136	1	
Chlorobenzene	ug/L	ND	50	50	54.8	54.8	110	110	79-135	0	
Toluene	ug/L	ND	50	50	54.9	53.6	110	107	73-131	2	
Trichloroethene	ug/L	ND	50	50	55.4	54.8	111	110	73-131	1	
1,2-Dichloroethane-d4 (S)	%						98	95	79-120		
4-Bromofluorobenzene (S)	%						101	103	87-109		
Dibromofluoromethane (S)	%						103	101	85-115		
Toluene-d8 (S)	%						99	100	70-120		

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: WET/12143 — Analysis Method: SM 5210B
QC Batch Method: SM 5210B — Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 9267909001

METHOD BLANK: 432458 — Matrix: Water
Associated Lab Samples: 9267909001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	04/27/10 11:30	

LABORATORY CONTROL SAMPLE: 432459

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	192	97	84-115	

SAMPLE DUPLICATE: 432460

Parameter	Units	9267909001 Result	Dup Result	RPD	Qualifiers
BOD, 5 day	mg/L	54.0	63.0	15	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: WETA/7223
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 9267909001

METHOD BLANK: 432915
Matrix: Water
Associated Lab Samples: 9267909001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	04/23/10 09:10	
Nitrogen, Nitrite	mg/L	ND	0.10	04/23/10 09:10	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	04/23/10 09:10	

LABORATORY CONTROL SAMPLE: 432916

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	5	5.4	107	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	
Nitrogen, NO2 plus NO3	mg/L	5	5.4	107	90-110	

MATRIX SPIKE SAMPLE: 432917

Parameter	Units	9267905012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.27	5	5.7	108	90-110	
Nitrogen, Nitrite	mg/L	ND	1	1.2	125	90-110	M0
Nitrogen, NO2 plus NO3	mg/L	0.27	5	5.7	108	90-110	

MATRIX SPIKE SAMPLE: 432918

Parameter	Units	9267907008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	5	5.6	111	90-110	M0
Nitrogen, Nitrite	mg/L	ND	1	1.2	116	90-110	M0
Nitrogen, NO2 plus NO3	mg/L	ND	5	5.6	111	90-110	M0

SAMPLE DUPLICATE: 432919

Parameter	Units	9267907005 Result	Dup Result	RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		
Nitrogen, Nitrite	mg/L	ND	ND		
Nitrogen, NO2 plus NO3	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

SAMPLE DUPLICATE: 432920

Parameter	Units	9267907009 Result	Dup Result	RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		
Nitrogen, Nitrite	mg/L	0.60	0.61	1	
Nitrogen, NO2 plus NO3	mg/L	ND	ND		

SAMPLE DUPLICATE: 432921

Parameter	Units	9267905006 Result	Dup Result	RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		
Nitrogen, Nitrite	mg/L	ND	ND		
Nitrogen, NO2 plus NO3	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: WETA/7248
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Phosphorus, Total
Associated Lab Samples: 9267909001

METHOD BLANK: 433892
Matrix: Water
Associated Lab Samples: 9267909001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	mg/L	ND	0.10	04/27/10 14:30	

LABORATORY CONTROL SAMPLE: 433893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	1	1.1	108	90-110	

MATRIX SPIKE SAMPLE: 433894

Parameter	Units	9267681001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	0.31	1	1.3	96	90-110	

MATRIX SPIKE SAMPLE: 433896

Parameter	Units	9267842001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	0.13	1	1.0	91	90-110	

SAMPLE DUPLICATE: 433897

Parameter	Units	9267844001 Result	Dup Result	RPD	Qualifiers
Phosphorus	mg/L	ND	ND		

SAMPLE DUPLICATE: 433901

Parameter	Units	9267742003 Result	Dup Result	RPD	Qualifiers
Phosphorus	mg/L	0.40	0.53	27	R1

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: WETA/7298 — Analysis Method: SM 5220D
QC Batch Method: SM 5220D — Analysis Description: 5220D COD
Associated Lab Samples: 9267909001

METHOD BLANK: 437451 — Matrix: Water
Associated Lab Samples: 9267909001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	05/05/10 13:40	

LABORATORY CONTROL SAMPLE: 437452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	750	759	101	90-110	

MATRIX SPIKE SAMPLE: 437453

Parameter	Units	9268136002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	750	773	103	75-125	

MATRIX SPIKE SAMPLE: 437455

Parameter	Units	9267909001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	203	750	983	104	75-125	

SAMPLE DUPLICATE: 437454

Parameter	Units	9268280001 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	112	120	7	

SAMPLE DUPLICATE: 437456

Parameter	Units	9267918001 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2440	2340	4	

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QUALITY CONTROL DATA

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

QC Batch: WETA/7263
QC Batch Method: ASTM D516-90
Analysis Method: ASTM D516-90
Analysis Description: ASTM D516-90 Sulfate Water
Associated Lab Samples: 9267909001

METHOD BLANK: 435345
Matrix: Water
Associated Lab Samples: 9267909001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	04/30/10 10:30	

LABORATORY CONTROL SAMPLE: 435346

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	20.5	102	90-110	

MATRIX SPIKE SAMPLE: 435347

Parameter	Units	9268001006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.1	20	35.8	93	75-125	

MATRIX SPIKE SAMPLE: 435350

Parameter	Units	9267844005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	24.5	100	75-125	

SAMPLE DUPLICATE: 435348

Parameter	Units	9268001005 Result	Dup Result	RPD	Qualifiers
Sulfate	mg/L	7.2	7.1	1	

SAMPLE DUPLICATE: 435349

Parameter	Units	9267844004 Result	Dup Result	RPD	Qualifiers
Sulfate	mg/L	37.5	38.0	1	

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QUALIFIERS

Project: White Oak LF-GWM-April 2010
Pace Project No.: 9267909

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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U - Indicates the compound was analyzed for, but not detected.

ANALYTE QUALIFIERS

C9	Common Laboratory Contaminant.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
R1	RPD value was outside control limits.

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Sample Condition Upon Receipt

Pace Analytical

Client Name: Haywood Project # 9267909

Where Received: ☐ Huntersville ☑ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other_____

Thermometer Used: IR Gun#2 / 72490786 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0.8 C

Corrected Cooler Temp.: 3.0 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: TM 4/22/10

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☑Yes	☐No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WO				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	TM
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No		Initial when completed
Samples checked for dechlorination:	☑Yes	☐No	☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☑No	~~☐N/A~~	15.
Trip Blank Present:	☐Yes	☑No	☐N/A	16.
Trip Blank Custody Seals Present	☐Yes	☑No	☐N/A	
Pace Trip Blank Lot # (if purchased):_____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: TM **Date:** 4/29/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1293753

Section A Required Client Information:

Company: Haywood Co Solid Wst
Address: Lyons NC
Email To:
Phone: 227-8042 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Stephen King
Copy To:
Purchase Order No.:
Project Name: White Oak MW's
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☑ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/GRAB DATE	COLLECTED Composite End/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): Fe	Sulfate	Nitrate	Chloride	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 926 7909
1	MW-1A					4.22.10	1450		4			1	3					X	X	X	X		
2	MW-2					4.22	1300		4			1	3					X	X	X	X		
3	MW 2D					4.22	1310		4			1	3					X	X	X	X		
4	MW-4A					4.22	1510		4			1	3					X	X	X	X		
5	MW-8					4.22	1245		4			1	3					X	X	X	X		
6	MW-11S					4.22	1355		4			1	3					X	X	X	X		
7	MW 11D					4.22	1405		4			1	3					X	X	X	X		
8	MW-14					4.22	1540		4			1	3					X	X	X	X		
9	MW-15					4.22	1430		4			1	3					X	X	X	X		
10	PZ (Left one Near House)					4.22	1330		4			1	3					X	X	X	X		
11	TUL BIK					4.21			2				2							X	X		
12	EQUIP BIK					4.21			3			1	2							X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		4.22.10	1545	[signature] Pace	4.22	1545				
	[signature] Pace	4.22.10	1640	[signature]	4/22/10	1640	2.2	Y	N	Y

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: MARK P. SWANN
SIGNATURE of SAMPLER: [signature] Pace DATE Signed (MM/DD/YY): 4.22.10

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1293768

Section A Required Client Information:

Company: HAYWOOD Co Solid Wst
Address: Clyde NC
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Stephen Kirk
Copy To:
Purchase Order No.:
Project Name: White OAK LF
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☑ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	FeO	Acy Fe (mg)	Acy Fe Imet. (L)	Acy Bod		Cod TP	NO2 NO3 (mg/L)	Solf					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 926709
1	Leachate					4.21.10	1310		8	3	1	1	3						X	X	X	X		X	X	X						-001
2	Swtt Pond					4.21	1230		0			1																				
3	SW-1					4.21	1145		4			1	3						X	X	X											-002
4	SW-2					4.21	1245		4			1	3						X	X	X											-003
5	SW-3					4.21	1235		4			1	3						X	X	X											-004
6	SW-5 Gone						—																									
7	SW-6					4.21	1605		4			1	3						X	X	X											-005
8	SW-7					4.21	1556		4			1	3						X	X	X											-006
9																																
10	FT																															
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		4.21.10	1720	Mark Swann Pace	4.21.10	1720				
	Mark Swann Pace	4.22	1000	[signature]	4/22/10	1600	3.0	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: MARK E. SWANN
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): ~~4.21.10~~ 4.21.10

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

APPENDIX D

STATISTICAL CALCULATIONS

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

COMPOUND	TOTAL	ND	DETECTED	%ND	STATISTICAL TEST
Total Antimony	215	209	6	97.2%	Poisson Prediction Limits
Total Arsenic	215	190	25	88.4%	Kruskal-Wallis
Total Barium	218	19	199	8.7%	ANOVA
Total Beryllium	216	175	41	81.0%	Kruskal-Wallis
Total Cadmium	216	178	38	82.4%	Kruskal-Wallis
Total Chromium	216	105	111	48.6%	Kruskal-Wallis
Total Cobalt	216	129	87	59.7%	Kruskal-Wallis
Total Copper	216	120	96	55.6%	Kruskal-Wallis
Total Lead	217	147	70	67.7%	Kruskal-Wallis
Total Nickel	217	96	121	44.2%	Kruskal-Wallis
Total Selenium	216	212	4	98.1%	Poisson Prediction Limits
Total Silver	216	213	3	98.6%	Poisson Prediction Limits
Total Thallium	216	197	19	91.2%	Poisson Prediction Limits
Total Vanadium	216	106	110	49.1%	Kruskal-Wallis
Total Zinc	216	51	165	23.6%	Kruskal-Wallis
Acetone	160	159	1	99.4%	Poisson Prediction Limits
Carbon Disulfide	160	157	3	98.1%	Poisson Prediction Limits
2-Butanone	160	159	1	99.4%	Poisson Prediction Limits

Sampling Event	# Detected
N 1	64
N 2	13
N 3	14
N 4	3
N 5	69
N 6	0
N 7	0
N 8	0
N 9	0
N 10	58
N 11	94
N 12	62
N 13	59
N 14	78
N 15	51
N 16	63
N 17	62
N 18	29
N 19	39
N 20	45
N 21	59
N 22	55
N 23	61
N 24	58
N 25	37
N 26	27

LEGEND FOR THE FOLLOWING PAGES:

ND = *Not Detected* at the method detection limit
MCL = *Maximum Contaminant Level*; NCAC 2L Standard
NE = *Not Established*; NC has not established a MCL
NP = *Not Present* during sampling event
NS = *Not Sampled*
NT = *Not Tested*
NA = information *Not Available*
MDL = *Method Detection Limit*

Total Detected Concentrations (per compound) =	1100
Total Detected Concentrations (per event) =	1100
Are all accounted for ?	Yes
Statistical Package Prepared By:	IAI
Statistical Package Checked By:	MSP

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Antimony**
MCL (µg/l): Not Established
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	**10**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	**30**
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	**10**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**30**
04/15/02	**15**	ND	NS	ND	ND	ND	NT	ND	ND	**11**	ND	NS	**10**
09/26/02	ND	ND	ND	**12**	ND	ND	ND	ND	ND	ND	ND	**98**	**10**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	**5**
10/13/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**30**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/25/07	ND	ND	ND	ND	ND	**20**	ND	ND	ND	ND	ND	ND	**6**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**5**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	**5**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	**5**

1) If not detected (ND), use half of the detection limit.

04/24/00	5	-	-	5	5	5	5	5	5	5	5	-
06/26/00	5	5	-	-	-	-	-	-	-	-	-	-
07/26/00	5	5	-	-	-	-	-	-	-	-	-	-
09/18/00	-	-	-	-	-	-	-	-	-	-	-	-
04/09/01	5	5	-	5	5	5	5	5	5	5	5	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	15	5	-	5	5	5	-	5	5	11	5	-
09/26/02	5	5	5	12	5	5	5	5	5	5	5	98
04/28/03	5	5	5	5	5	5	5	5	5	5	5	5
10/30/03	2.5	2.5	-	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/20/04	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
10/21/04	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/18/05	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	12
10/13/05	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/25/06	15	15	15	15	15	15	15	15	15	15	15	15
10/20/06	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/25/07	3	3	3	3	3	20	3	3	3	3	3	3
10/31/07	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/23/08	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
10/20/08	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/22/09	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-
10/26/09	2.5	2.5	2.5	2.5	2.5	2.5	-	-	-	2.5	-	2.5
04/22/10				2.5	2.5	2.5	-	-	2.5	2.5	-	2.5

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 20.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 53$
$T_{n1} = 219$

3) Using Gibbons' formula, calculate the upper Poisson Prediction limit T^*_k:

$$T^*_k = cT_{n1} + ct^2/2 + ct[T_{n1}(1+1/c) + t^2/4]^{-0.5}$$

where $c = k/n$
and where k = the number of future predicted measurements (one per well during the current sampling event)
and where t = the upper 99th percentile of the t-distribution with (n-1) degrees of freedom (Table 6 of the IFG).

$k = 6$
$n = 53$
$T_{n1} = 219$
$t[52,.01] = 2.4032$
$c = 0.1132$
$T_{n2} = 15$
$T^*_k = 37.7$

4) Compare the *Poisson Prediction Limit* (T^*_k) to the *Sum of the Concentrations Detected* (T_{n2}) in the wells during the most recent sampling event.
Since the Poisson Prediction Limit was not exceeded, there is no evidence of contamination.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Arsenic**
NC MCL (µg/l): 50
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	10
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	10
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	10
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
04/15/02	ND	ND	NS	ND	ND	ND	NT	ND	ND	ND	ND	NS	10
09/26/02	ND	**5.7**	ND	ND	ND	ND	ND	ND	**27**	ND	ND	**68**	5
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**24**	5
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	**5.3**	ND	**81**	5
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7.4**	ND	**30**	5
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**59**	5
04/18/05	ND	ND	ND	**10**	ND	ND	ND	ND	ND	**5.2**	ND	**65**	5
10/13/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**44**	5
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**42**	10
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**13**	5
04/25/07	ND	ND	ND	ND	ND	**280**	ND	ND	ND	ND	ND	**12**	5
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**21.4**	5
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10.2**	5
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6.6**	5
04/22/09	ND	ND	**5.4**	ND	ND	**5.6**	ND	ND	ND	ND	ND	NS	5
10/26/09	ND	ND	ND	ND	**6**	ND	NS	NS	NS	ND	NS	ND	5
04/22/10	ND	ND	ND	ND	**7.4**	**9.8**	NS	NS	ND	ND	NS	ND	5
N_i	21	20	15	19	19	19	16	17	18	19	17	15	
sum of rank values (R_i)	2005.5	2009.5	1530.0	1920.0	2018.0	2137.0	1528.0	1623.5	1830.5	2109.5	1623.5	2885.0	
avg rank value (Rbar)	95.5	100.5	102.0	101.1	106.2	112.5	95.5	95.5	101.7	111.0	95.5	192.3	

	Number of each rank value												Rank Value
rank value of NDs =	21	19	14	18	17	16	16	17	17	16	17	2	95.5
rank value of 5.2s =	0	0	0	0	0	0	0	0	0	1	0	0	191
rank value of 5.3s =	0	0	0	0	0	0	0	0	0	1	0	0	192
rank value of 5.4s =	0	0	1	0	0	0	0	0	0	0	0	0	193
rank value of 5.6s =	0	0	0	0	0	1	0	0	0	0	0	0	194
rank value of 5.7s =	0	1	0	0	0	0	0	0	0	0	0	0	195
rank value of 6s =	0	0	0	0	1	0	0	0	0	0	0	0	196
rank value of 6.6s =	0	0	0	0	0	0	0	0	0	0	0	1	197
rank value of 7.4s =	0	0	0	0	1	0	0	0	0	1	0	0	198.5
rank value of 9.8s =	0	0	0	0	0	1	0	0	0	0	0	0	200
rank value of 10s =	0	0	0	1	0	0	0	0	0	0	0	0	201
rank value of 10.2s =	0	0	0	0	0	0	0	0	0	0	0	1	202
rank value of 12s =	0	0	0	0	0	0	0	0	0	0	0	1	203
rank value of 13s =	0	0	0	0	0	0	0	0	0	0	0	1	204
rank value of 21.4s =	0	0	0	0	0	0	0	0	0	0	0	1	205
rank value of 24s =	0	0	0	0	0	0	0	0	0	0	0	1	206
rank value of 27s =	0	0	0	0	0	0	0	0	1	0	0	0	207

rank value of 30s =	0	0	0	0	0	0	0	0	0	0	0	1	208
rank value of 42s =	0	0	0	0	0	0	0	0	0	0	0	1	209
rank value of 44s =	0	0	0	0	0	0	0	0	0	0	0	1	210
rank value of 59s =	0	0	0	0	0	0	0	0	0	0	0	1	211
rank value of 65s =	0	0	0	0	0	0	0	0	0	0	0	1	212
rank value of 68s =	0	0	0	0	0	0	0	0	0	0	0	1	213
rank value of 81s =	0	0	0	0	0	0	0	0	0	0	0	1	214
rank value of 280s =	0	0	0	0	0	1	0	0	0	0	0	0	215
n =	**21**	**20**	**15**	**19**	**19**	**19**	**16**	**17**	**18**	**19**	**17**	**15**	

Sum of rank value calculations

2005.5	1814.5	1337	1719	1623.5	1528	1528	1623.5	1623.5	1528	1623.5	191
0	0	0	0	0	0	0	0	0	191	0	0
0	0	0	0	0	0	0	0	0	192	0	0
0	0	193	0	0	0	0	0	0	0	0	0
0	0	0	0	0	194	0	0	0	0	0	0
0	195	0	0	0	0	0	0	0	0	0	0
0	0	0	0	196	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	197
0	0	0	0	198.5	0	0	0	0	198.5	0	0
0	0	0	0	0	200	0	0	0	0	0	0
0	0	0	201	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	202
0	0	0	0	0	0	0	0	0	0	0	203
0	0	0	0	0	0	0	0	0	0	0	204
0	0	0	0	0	0	0	0	0	0	0	205
0	0	0	0	0	0	0	0	0	0	0	206
0	0	0	0	0	0	0	0	207	0	0	0
0	0	0	0	0	0	0	0	0	0	0	208
0	0	0	0	0	0	0	0	0	0	0	209
0	0	0	0	0	0	0	0	0	0	0	210
0	0	0	0	0	0	0	0	0	0	0	211
0	0	0	0	0	0	0	0	0	0	0	212
0	0	0	0	0	0	0	0	0	0	0	213
0	0	0	0	0	0	0	0	0	0	0	214
0	0	0	0	0	215	0	0	0	0	0	0

sum of rank values (R_i)	**2005.5**	**2009.5**	**1530**	**1920**	**2018**	**2137**	**1528**	**1623.5**	**1830.5**	**2109.5**	**1623.5**	**2885**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	549054.0	194021	214333	240356	145924	155044	186152	234210	155044	554882

$N_{i\,bg}$ = 56
N = 215
H = 31.33

Adjust H for ties:

T_i = 7E+06 sum of T1..T2

$H' = H/(1-(T_i/(N^3-N)))$
H' = 101.12
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is less than H' =101.12.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

Calculate the critical values to compare each compliance well to the background wells:

Critical Value (C_x) = $P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	**MW-15**
Rbar (well x) =	101.1	106.2	112.5	95.5	95.5	101.7	111.0	95.5	192.3
avg Rbar (background) =	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Dx =	2.0	7.2	13.5	-3.5	-3.5	2.7	12.0	-3.5	93.3
Cx =	38.5	38.5	38.5	41.1	40.1	39.3	38.5	40.1	42.1
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	No

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total Arsenic averaged over these compliance wells are significantly greater than that of the background wells.
Shewart-CUSUM Control Charts should be performed for each failing well to check for statistical significance.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Arsenic**
NC MCL (µg/l):	50
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**68**	**5**
4/28/2003	**24**	**5**
10/30/2003	**81**	**5**
4/20/2004	**30**	**5**
10/21/2004	**59**	**5**
4/18/2005	**65**	**5**
10/13/2005	**44**	**5**
4/25/2006	**42**	**10**
10/20/2006	**13**	**5**
4/25/2007	**12**	**5**
10/31/2007	**21.4**	**5**
4/23/2008	**10.2**	**5**
10/20/2008	**6.6**	**5**
4/22/2009	NS	**5**
10/26/2009	ND	**5**
4/22/2010	ND	**5**

If not detected (ND), use half of the detection limit.

	X_i values =
68	46345.651
24	-527.5141
81	117073.7
30	-8.998912
59	19508.558
65	35676.273
44	1693.6699
42	976.19149
13	-6946.005
12	-8096.385
21.4	-1218.186
10.2	-10474.71
6.6	-16542.39
2.5	-25881.8
2.5	-25881.8

X_{bar} =	32.08
SD =	26.133126
N =	15
$1/N\Sigma_i(X_i-X_{bar})^3$ =	8379.7501
γ_1=	0.5207171

Since the Coefficient of Skewness of 0.52 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the real detected values shown above.

	X_i values =
ln = 4.2195077	1.777523
3.1780538	0.0049045
4.3944492	2.6642142
3.4011974	0.0607196
4.0775374	1.2229339
4.1743873	1.5862027
3.7841896	0.4673568
3.7376696	0.3882466
2.5649494	-0.087058
2.4849066	-0.143257
3.0633909	0.0001686
2.3223877	-0.322496
1.8870696	-1.409004
0.9162907	-9.153739
0.9162907	-9.153739

X_{bar} = 3.0081519
SD = 1.1390098
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.806468
γ_1= 0.6052709

Use the real values (not log-transformed) indicated in the previous section.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**68**	5	68
4/28/2003	**24**	5	24
10/30/2003	**81**	5	81
4/20/2004	**30**	5	30
10/21/2004	**59**	5	59
4/18/2005	**65**	5	65
10/13/2005	**44**	5	44
4/25/2006	**42**	10	42
10/20/2006	**13**	5	13
4/25/2007	**12**	5	12
10/31/2007	**21.4**	5	21.4
4/23/2008	**10.2**	5	10.2
10/20/2008	**6.6**	5	6.6
4/22/2009	NS	5	-
10/26/2009	ND	5	2.5
4/22/2010	ND	5	2.5

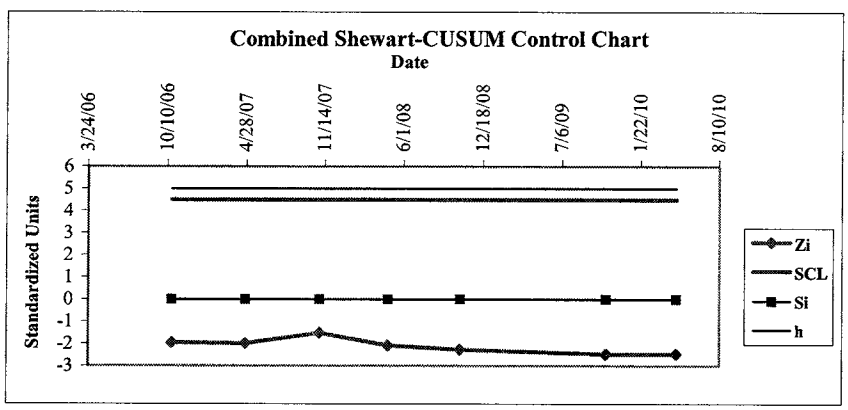
Compute the mean and standard deviation of the historical data:

51.625 = x_{mean} (Mean of N1-N8 historical data)
19.805753 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	13	-1.9501909	0	5	4.5
4/25/2007	12	-2.0006813	0	5	4.5
10/31/2007	21.4	-1.5260717	0	5	4.5
4/23/2008	10.2	-2.091564	0	5	4.5
10/20/2008	6.6	-2.2733294	0	5	4.5
10/26/2009	2.5	-2.4803399	0	5	4.5
4/22/2010	2.5	-2.4803399	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h.
The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Barium**
NC MCL (µg/l): 2000
Method: ANOVA
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	250	NS	NS	240	420	200	63	300	93	230	ND	NS	5
06/26/00	300	67	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
07/26/00	330	30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	330	92	NS	NS	NS	NT	NS	NS	NS	500
04/09/01	1300	380	NS	180	330	120	80	290	360	970	130	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	500
04/15/02	1300	41	NS	ND	ND	160	23	190	460	1400	110	NS	5
09/26/02	330	500	750	4200	120	230	93	410	910	1400	140	11000	5
04/28/03	600	66	220	1800	160	140	110	92	360	800	140	2800	5
10/30/03	320	100	NT	210	310	130	95	110	1200	270	130	4900	5
04/20/04	320	56	120	410	460	170	140	210	62	940	150	2000	5
10/21/04	320	40	200	300	310	140	140	130	12	900	110	4900	5
04/18/05	480	55	160	7200	610	180	160	140	12	1000	140	3700	5
10/13/05	770	37	160	1700	870	250	160	140	27	810	150	2700	5
04/25/06	650	ND	ND	ND	1100	ND	ND	ND	ND	750	ND	2700	500
10/20/06	410	22	180	470	1100	ND	ND	ND	160	ND	ND	650	5
04/25/07	290	ND	200	240	1300	1500	130	180	ND	ND	160	600	100
10/31/07	501	31.5	223	198	1350	591	184	208	62.4	516	201	872	5
04/23/08	194	30.8	253	168	1230	661	216	202	61.8	151	185	361	5
10/20/08	474	66	313	224	1210	894	164	216	41.1	182	244	245	5
04/22/09	126	47.2	591	309	1300	817	230	216	77	163	177	NS	5
10/26/09	131	16.8	144	188	1720	987	NS	NS	NS	209	NS	178	5
04/22/10	208	43.5	153	157	1920	1380	NS	NS	20.9	150	NS	75	5

If not detected (ND), use the natural log of half of the detection limit.

ln =	5.52146			5.48064	6.04025	5.29832	4.14313	5.70378	4.5326	5.43808	0.91629
	5.70378	4.20469									
	5.79909	3.4012									
				5.79909	4.52179						
	7.17012	5.94017		5.19296	5.79909	4.78749	4.38203	5.66988	5.8861	6.8773	4.86753

7.17012	3.71357		0.91629	0.91629	5.07517	3.13549	5.24702	6.13123	7.24423	4.70048	
5.79909	6.21461	6.62007	8.34284	4.78749	5.43808	4.5326	6.01616	6.81344	7.24423	4.94164	9.30565
6.39693	4.18965	5.39363	7.49554	5.07517	4.94164	4.70048	4.52179	5.8861	6.68461	4.94164	7.93737
5.76832	4.60517		5.34711	5.73657	4.86753	4.55388	4.70048	7.09008	5.59842	4.86753	8.49699
5.76832	4.02535	4.78749	6.01616	6.13123	5.1358	4.94164	5.34711	4.12713	6.84588	5.01064	7.6009
5.76832	3.68888	5.29832	5.70378	5.73657	4.94164	4.94164	4.86753	2.48491	6.80239	4.70048	8.49699
6.17379	4.00733	5.07517	8.88184	6.41346	5.19296	5.07517	4.94164	2.48491	6.90776	4.94164	8.21609
6.64639	3.61092	5.07517	7.43838	6.76849	5.52146	5.07517	4.94164	3.29584	6.69703	5.01064	7.90101
6.47697	5.52146	5.52146	5.52146	7.00307	5.52146	5.52146	5.52146	5.52146	6.62007	5.52146	7.90101
6.01616	3.09104	5.19296	6.15273	7.00307	0.91629	0.91629	0.91629	5.07517	0.91629	0.91629	6.47697
5.66988	3.91202	5.29832	5.48064	7.17012	7.31322	4.86753	5.19296	3.91202	3.91202	5.07517	6.39693
6.21661	3.44999	5.40717	5.28827	7.20786	6.38182	5.21494	5.33754	4.13357	6.24611	5.3033	6.77079
5.26786	3.42751	5.53339	5.12396	7.11477	6.49375	5.37528	5.30827	4.1239	5.01728	5.22036	5.88888
6.16121	4.18965	5.7462	5.41165	7.09838	6.79571	5.09987	5.37528	3.71601	5.20401	5.49717	5.50126
4.83628	3.85439	6.38182	5.73334	7.17012	6.70564	5.43808	5.37528	4.34381	5.09375	5.17615	
4.8752	2.82138	4.96981	5.23644	7.45008	6.89467				5.34233		5.18178
5.33754	3.77276	5.03044	5.05625	7.56008	7.22984			3.03975	5.01064		4.31482

n_i =	21	20	15	20	20	19	17	17	18	19	17	15	
Xi. =	124.543	81.6418	81.3314	115.619	122.704	105.452	77.9147	84.9841	82.598	109.702	77.6084	106.387	1170.49 = X..
Xi.bar =	5.93064	4.08209	5.42209	5.78097	6.1352	5.55013	4.58322	4.99907	4.58878	5.77381	4.5652	7.0925	5.37 = X..bar
std dev =	0.62471	0.88688	0.50491	1.59187	1.52426	1.41558	1.10453	1.1174	1.39116	1.50904	1.39331	1.43175	
$ni*(Xi.bar-X..bar)^2$ =	6.6193	33.1336	0.04195	3.39092	11.7348	0.62192	10.5023	2.32911	10.9633	3.11037	10.9893	44.5458	
$(Xi.^2/n_i)$ =	738.622	333.269	440.987	668.392	752.813	585.275	357.1	424.841	379.024	633.401	354.298	754.552	

	SS	df	MS F	Fc
SSw	137.983	11	12.5439 8	1.67
SS_error	327.826	206	1.59139	
SSt	465.808	217		

The calculated F statistic is 7.88. The tabulated Fc value with 11 and 206 degrees of freedom and the a=0.05 level is 1.67 (Table 2 of IFG). Since the calculated value of F exceeds the tabulated value of Fc, the hypothesis of equal means must be rejected, and post hoc comparisons are necessary (see below).

Bonferroni t-statistics

	MW-1A	**MW-2**	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	**MW-15**
$Xbar_i$ = avg per well =	5.78097	6.1352	5.55013	4.58322	4.99907	4.58878	5.77381	4.5652	7.0925
$D_w = Xbar_i - Xbar_{up}$ =	0.64674	1.00097	0.41591	-0.551	-0.1352	-0.5454	0.63959	-0.569	1.95827
= [MS-error*($1/n_{up} + 1/n_i$)]^0.5 =	0.41455	0.41455	0.42251	0.44068	0.44068	0.43118	0.42251	0.44068	0.46266
$D_i = SE_i * t_c$ =	0.96589	0.96589	0.98445	1.02677	1.02677	1.00466	0.98445	1.02677	1.07801
Statistical Significance ?	No	**Yes**	No	No	No	No	No	No	**Yes**
f SSI, is current event above MCL?	-	No	-	-	-	-	-	-	No

56 = n_{up}
5.13422547 = $Xbar_{up}$(average background: MW-11S, MW-11D, & MW-14)
1.59138726 = MS_error
206 = degrees of freedom
9 = m (number of compliance wells)
2.33 = t_c (from Table 3 of IFG)

The F test was significant at the 5% level. The Bonferroni multiple comparisons procedure was then used to determine for which wells there was statistically significant evidence of contamination.
If the calculated D_w value exceeds the corresponding D_i value, it can be concluded that there is significant evidence of contamination.
Significant evidence of contamination is present in the 2 monitoring wells indicated above.
Perform a Shewart-CUSUM Control Chart evaluation to determine if intrawell statistical significance is present.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Barium**
AL MCL (µg/l): 2000
Method: Levene's Test for Homogeneity
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
4/24/2000	250	NS	NS	240	420	200	63	300	93	230	ND	NS	5
6/26/2000	300	67	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
7/26/2000	330	30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
9/18/2000	NS	NS	NS	330	92	NS	NS	NS	NT	NS	NS	NS	500
4/9/2001	1300	380	NS	180	330	120	80	290	360	970	130	NS	5
9/18/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
10/29/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
1/30/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
2/28/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	500
4/15/2002	1300	41	NS	ND	ND	160	23	190	460	1400	110	NS	5
9/26/2002	330	500	750	4200	120	230	93	410	910	1400	140	11000	5
4/28/2003	600	66	220	1800	160	140	110	92	360	800	140	2800	5
10/30/2003	320	100	NT	210	310	130	95	110	1200	270	130	4900	5
4/20/2004	320	56	120	410	460	170	140	210	62	940	150	2000	5
10/21/2004	320	40	200	300	310	140	140	130	12	900	110	4900	5
4/18/2005	480	55	160	7200	610	180	160	140	12	1000	140	3700	5
10/13/2005	770	37	160	1700	870	250	160	140	27	810	150	2700	5
4/25/2006	650	ND	ND	ND	1100	ND	ND	ND	ND	750	ND	2700	500
10/20/2006	410	22	180	470	1100	ND	ND	ND	160	ND	ND	650	5
4/25/2007	290	ND	200	240	1300	1500	130	180	ND	ND	160	600	100
10/31/2007	501	31.5	223	198	1350	591	184	208	62.4	516	201	872	5
4/23/2008	194	30.8	253	168	1230	661	216	202	61.8	151	185	361	5
10/20/2008	474	66	313	224	1210	894	164	216	41.1	182	244	245	5
4/22/2009	126	47.2	591	309	1300	817	230	216	77	163	177	NS	5
10/26/2009	131	16.8	144	188	1720	987	NS	NS	NS	209	NS	178	5
4/22/2010	208	43.5	153	157	1920	1380	NS	NS	20.9	150	NS	74.8	5

If not detected (ND), use half of the detection limit.

	250			240	420	200	63	300	93	230	2.5
	300	67									
	330	30									
				330	92						
	1300	380		180	330	120	80	290	360	970	130
	1300	41		2.5	2.5	160	23	190	460	1400	110
	330	500	750	4200	120	230	93	410	910	1400	140
	600	66	220	1800	160	140	110	92	360	800	140
	320	100		210	310	130	95	110	1200	270	130
	320	56	120	410	460	170	140	210	62	940	150
	320	40	200	300	310	140	140	130	12	900	110
	480	55	160	7200	610	180	160	140	12	1000	140
	770	37	160	1700	870	250	160	140	27	810	150
	650	250	250	250	1100	250	250	250	250	750	250
	410	22	180	470	1100	2.5	2.5	2.5	160	2.5	2.5
	290	50	200	240	1300	1500	130	180	50	50	160
	501	31.5	223	198	1350	591	184	208	62.4	516	201
	194	30.8	253	168	1230	661	216	202	61.8	151	185
	474	66	313	224	1210	894	164	216	41.1	182	244
	126	47.2	591	309	1300	817	230	216	77	163	177
	131	16.8	144	188	1720	987				209	
	208	43.5	153	157	1920	1380			20.9	150	
n =	21	20	15	20	20	19	17	17	18	19	17
bar x_i =	457.33	96.49	261.13	938.83	795.73	463.29	131.79	193.32	234.4	573.34	142.47
z_{ij} =	207.33			698.83	375.73	263.29	68.794	106.68	141.4	343.34	139.97
	157.33	29.49									
	127.33	66.49									
				608.83	703.73						
	842.67	283.51		758.83	465.73	343.29	51.794	96.676	125.6	396.66	12.471
	842.67	55.49		936.33	793.23	303.29	108.79	3.3235	225.6	826.66	32.471
	127.33	403.51	488.87	3261.2	675.73	233.29	38.794	216.68	675.6	826.66	2.4706
	142.67	30.49	41.133	861.18	635.73	323.29	21.794	101.32	125.6	226.66	2.4706
	137.33	3.51		728.83	485.73	333.29	36.794	83.324	965.6	303.34	12.471
	137.33	40.49	141.13	528.83	335.73	293.29	8.2059	16.676	172.4	366.66	7.5294
	137.33	56.49	61.133	638.83	485.73	323.29	8.2059	63.324	222.4	326.66	32.471
	22.667	41.49	101.13	6261.2	185.73	283.29	28.206	53.324	222.4	426.66	2.4706
	312.67	59.49	101.13	761.18	74.275	213.29	28.206	53.324	207.4	236.66	7.5294
	192.67	153.51	11.133	688.83	304.28	213.29	118.21	56.676	15.6	176.66	107.53
	47.333	74.49	81.133	468.83	304.28	460.79	129.29	190.82	74.4	570.84	139.97
	167.33	46.49	61.133	698.83	504.28	1036.7	1.7941	13.324	184.4	523.34	17.529
	43.667	64.99	38.133	740.83	554.28	127.71	52.206	14.676	172	57.342	58.529
	263.33	65.69	8.1333	770.83	434.28	197.71	84.206	8.6765	172.6	422.34	42.529
	16.667	30.49	51.867	714.83	414.28	430.71	32.206	22.676	193.3	391.34	101.53
	331.33	49.29	329.87	629.83	504.28	353.71	98.206	22.676	157.4	410.34	34.529
	326.33	79.69	117.13	750.83	924.28	523.71				364.34	

	249.33	52.99	108.13	781.83	1124.3	916.71			213.5	423.34		2437.3
bar z_i =	230.13	84.404	116.08	1114.5	514.28	377.58	53.865	66.128	237.07	401.04	44.381	2015.4
n_i * bar z_i^2 =	1E+06	142481	202118	2E+07	5E+06	3E+06	49325	74340	1E+06	3E+06	33484	6E+07

bar z = 437.9
N = 218

	SS	df	MS	F_{Ratio}	$F_{critical}$
Between Wells	6E+07	11	5E+06	6.59	1.67
Error	2E+08	206	795625		
Total	2E+08	217			

Since the F-ratio = 6.59 exceeds the tabulated value of F-critical = 1.67 (see Table 2 of IFG) with 11 and 206 df, the assumption of equal variances should be rejected.
Re-test the data set using the natural log of the above values.

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15
ln=	5.5215			5.4806	6.0403	5.2983	4.1431	5.7038	4.5326	5.4381	0.9163	
	5.7038	4.2047										
	5.7991	3.4012										
				5.7991	4.5218							
	7.1701	5.9402		5.193	5.7991	4.7875	4.382	5.6699	5.8861	6.8773	4.8675	
	7.1701	3.7136		0.9163	0.9163	5.0752	3.1355	5.247	6.1312	7.2442	4.7005	
	5.7991	6.2146	6.6201	8.3428	4.7875	5.4381	4.5326	6.0162	6.8134	7.2442	4.9416	9.3057
	6.3969	4.1897	5.3936	7.4955	5.0752	4.9416	4.7005	4.5218	5.8861	6.6846	4.9416	7.9374
	5.7683	4.6052		5.3471	5.7366	4.8675	4.5539	4.7005	7.0901	5.5984	4.8675	8.497
	5.7683	4.0254	4.7875	6.0162	6.1312	5.1358	4.9416	5.3471	4.1271	6.8459	5.0106	7.6009
	5.7683	3.6889	5.2983	5.7038	5.7366	4.9416	4.9416	4.8675	2.4849	6.8024	4.7005	8.497
	6.1738	4.0073	5.0752	8.8818	6.4135	5.193	5.0752	4.9416	2.4849	6.9078	4.9416	8.2161
	6.6464	3.6109	5.0752	7.4384	6.7685	5.5215	5.0752	4.9416	3.2958	6.697	5.0106	7.901
	6.477	5.5215	5.5215	5.5215	7.0031	5.5215	5.5215	5.5215	5.5215	6.6201	5.5215	7.901
	6.0162	3.091	5.193	6.1527	7.0031	0.9163	0.9163	0.9163	5.0752	0.9163	0.9163	6.477
	5.6699	3.912	5.2983	5.4806	7.1701	7.3132	4.8675	5.193	3.912	3.912	5.0752	6.3969
	6.2166	3.45	5.4072	5.2883	7.2079	6.3818	5.2149	5.3375	4.1336	6.2461	5.3033	6.7708
	5.2679	3.4275	5.5334	5.124	7.1148	6.4938	5.3753	5.3083	4.1239	5.0173	5.2204	5.8889
	6.1612	4.1897	5.7462	5.4116	7.0984	6.7957	5.0999	5.3753	3.716	5.204	5.4972	5.5013
	4.8363	3.8544	6.3818	5.7333	7.1701	6.7056	5.4381	5.3753	4.3438	5.0938	5.1761	
	4.8752	2.8214	4.9698	5.2364	7.4501	6.8947				5.3423		5.1818
	5.3375	3.7728	5.0304	5.0562	7.5601	7.2298			3.0397	5.0106		4.3148
n =	21	20	15	20	20	19	17	17	18	19	17	15
bar x_i =	5.9306	4.0821	5.4221	5.781	6.1352	5.5501	4.5832	4.9991	4.5888	5.7738	4.5652	7.0925
z_{ij} =	0.4092			0.3003	0.0949	0.2518	0.4401	0.7047	0.0562	0.3357	3.6489	
	0.2269	0.1226										
	0.1315	0.6809										
				0.0181	1.6134							
	1.2395	1.8581		0.588	0.3361	0.7626	0.2012	0.6708	1.2973	1.1035	0.3023	
	1.2395	0.3685		4.8647	5.2189	0.475	1.4477	0.248	1.5424	1.4704	0.1353	
	0.1315	2.1325	1.198	2.5619	1.3477	0.1121	0.0506	1.0171	2.2247	1.4704	0.3764	2.2132
	0.4663	0.1076	0.0285	1.7146	1.06	0.6085	0.1173	0.4773	1.2973	0.9108	0.3764	0.8449
	0.1623	0.5231		0.4339	0.3986	0.6826	0.0293	0.2986	2.5013	0.1754	0.3023	1.4045
	0.1623	0.0567	0.6346	0.2352	0.004	0.4143	0.3584	0.348	0.4616	1.0721	0.4454	0.5084
	0.1623	0.3932	0.1238	0.0772	0.3986	0.6085	0.3584	0.1315	2.1039	1.0286	0.1353	1.4045
	0.2431	0.0748	0.3469	3.1009	0.2783	0.3572	0.492	0.0574	2.1039	1.1339	0.3764	1.1236
	0.7158	0.4712	0.3469	1.6574	0.6333	0.0287	0.492	0.0574	1.2929	0.9232	0.4454	0.8085
	0.5463	1.4394	0.0994	0.2595	0.8679	0.0287	0.9382	0.5224	0.9327	0.8463	0.9563	0.8085
	0.0855	0.991	0.2291	0.3718	0.8679	4.6338	3.6669	4.0828	0.4864	4.8575	3.6489	0.6155
	0.2608	0.1701	0.1238	0.3003	1.0349	1.7631	0.2843	0.1939	0.6768	1.8618	0.51	0.6956
	0.286	0.6321	0.0149	0.4927	1.0727	0.8317	0.6317	0.3385	0.4552	0.4723	0.7381	0.3217
	0.6628	0.6546	0.1113	0.657	0.9796	0.9436	0.7921	0.3092	0.4649	0.7565	0.6552	1.2036
	0.2306	0.1076	0.3241	0.3693	0.9632	1.2456	0.5166	0.3762	0.8728	0.5698	0.932	1.5912
	1.0944	0.2277	0.9597	0.0476	1.0349	1.1555	0.8549	0.3762	0.245	0.6801	0.6109	
	1.0554	1.2607	0.4523	0.5445	1.3149	1.3445				0.4315		1.9107
	0.5931	0.3093	0.3917	0.7247	1.4249	1.6797			1.549	0.7632		2.7777
bar z_i =	0.4812	0.6291	0.359	0.966	1.0472	0.9436	0.6866	0.6006	1.1425	1.0981	0.8586	1.2155
n_i * bar z_i^2 =	4.8625	7.9148	1.9332	18.662	21.934	16.915	8.0135	6.132	23.494	22.909	12.531	22.161

bar z = 0.8356
N = 218

	SS	df	MS	F_{Ratio}	$F_{critical}$
Between Wells	15.23	11	1.38	1.21	1.67
Error	235.88	206	1.15		
Total	251.11	217			

Since the F-ratio = 1.21 does not exceed the tabulated value of F-critical = 1.67 (see Table 2 of IFG) with 11 and 206 df, the assumption of equal means should be accepted.
Proceed with further statistical tests using the log-transformed values shown above.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Barium**
NC MCL (µg/l): 2000
Method: Skewness Test for Normality
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
4/24/00	250	NS	NS	240	420	200	63	300	93	230	ND	NS	5
6/26/00	300	67	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
7/26/00	330	30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
9/18/00	NS	NS	NS	330	92	NS	NS	NS	NT	NS	NS	NS	500
4/9/01	1300	380	NS	180	330	120	80	290	360	970	130	NS	5
9/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
1/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
2/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	500
4/15/02	1300	41	NS	ND	ND	160	23	190	460	1400	110	NS	5
9/26/02	330	500	750	4200	120	230	93	410	910	1400	140	11000	5
4/28/03	600	66	220	1800	160	140	110	92	360	800	140	2800	5
10/30/03	320	100	NT	210	310	130	95	110	1200	270	130	4900	5
4/20/04	320	56	120	410	460	170	140	210	62	940	150	2000	5
10/21/04	320	40	200	300	310	140	140	130	12	900	110	4900	5
4/18/05	480	55	160	7200	610	180	160	140	12	1000	140	3700	5
10/13/05	770	37	160	1700	870	250	160	140	27	810	150	2700	5
4/25/06	650	ND	ND	ND	1100	ND	ND	ND	ND	750	ND	2700	500
10/20/06	410	22	180	470	1100	ND	ND	ND	160	ND	ND	650	5
4/25/07	290	ND	200	240	1300	1500	130	180	ND	ND	160	600	100
10/31/07	501	31.5	223	198	1350	591	184	208	62.4	516	201	872	5
4/23/08	194	30.8	253	168	1230	661	216	202	61.8	151	185	361	5
10/20/08	474	66	313	224	1210	894	164	216	41.1	182	244	245	5
4/22/09	126	47.2	591	309	1300	817	230	216	77	163	177	NS	5
10/26/09	131	16.8	144	188	1720	987	NS	NS	NS	209	NS	178	5
4/22/10	208	43.5	153	157	1920	1380	NS	NS	20.9	150	NS	74.8	5

If not detected (ND), use half of the detection limit.

	250			240	420	200	63	300	93	230	2.5
	300	67									
	330	30									
				330	92						
	1300	380		180	330	120	80	290	360	970	130
	1300	41		2.5	2.5	160	23	190	460	1400	110
	330	500	750	4200	120	230	93	410	910	1400	140
	600	66	220	1800	160	140	110	92	360	800	140
	320	100		210	310	130	95	110	1200	270	130
	320	56	120	410	460	170	140	210	62	940	150
	320	40	200	300	310	140	140	130	12	900	110
	480	55	160	7200	610	180	160	140	12	1000	140
	770	37	160	1700	870	250	160	140	27	810	150
	650	250	250	250	1100	250	250	250	250	750	250
	410	22	180	470	1100	2.5	2.5	2.5	160	2.5	2.5
	290	50	200	240	1300	1500	130	180	50	50	160
	501	31.5	223	198	1350	591	184	208	62.4	516	201
	194	30.8	253	168	1230	661	216	202	61.8	151	185
	474	66	313	224	1210	894	164	216	41.1	182	244
	126	47.2	591	309	1300	817	230	216	77	163	177
	131	16.8	144	188	1720	987				209	
	208	43.5	153	157	1920	1380			20.9	150	

X_i values =	-3E+07			-3E+07	-2E+06	-4E+07	-1E+08	-2E+07	-9E+07	-3E+07	-2E+08
	-2E+07	-1E+08									
	-1E+07	-1E+08									
				-1E+07	-1E+08						
	4E+08	-5E+06		-5E+07	-1E+07	-8E+07	-1E+08	-2E+07	-7E+06	7E+07	-7E+07
	4E+08	-1E+08		-2E+08	-2E+08	-6E+07	-1E+08	-5E+07	-7E+05	6E+08	-8E+07
	-1E+07	-1E+05	8E+06	5E+10	-8E+07	-3E+07	-9E+07	-3E+06	5E+07	6E+08	-7E+07
	132479	-1E+08	-4E+07	2E+09	-6E+07	-7E+07	-8E+07	-1E+08	-7E+06	2E+07	-7E+07
	-1E+07	-9E+07		-4E+07	-1E+07	-7E+07	-9E+07	-8E+07	3E+08	-2E+07	-7E+07
	-1E+07	-1E+08	-8E+07	-3E+06	-7E+05	-5E+07	-7E+07	-4E+07	-1E+08	6E+07	-6E+07
	-1E+07	-1E+08	-4E+07	-2E+07	-1E+07	-7E+07	-7E+07	-7E+07	-2E+08	4E+07	-8E+07
	-3E+05	-1E+08	-6E+07	3E+11	226735	-5E+07	-6E+07	-7E+07	-2E+08	9E+07	-7E+07
	1E+07	-1E+08	-6E+07	2E+09	3E+07	-3E+07	-6E+07	-7E+07	-1E+08	2E+07	-6E+07
	1E+06	-3E+07	-3E+07	-3E+07	2E+08	-3E+07	-3E+07	-3E+07	-3E+07	8E+06	-3E+07
	-3E+06	-1E+08	-5E+07	-5E+05	2E+08	-2E+08	-2E+08	-2E+08	-6E+07	-2E+08	-2E+08
	-2E+07	-1E+08	-4E+07	-3E+07	4E+08	9E+08	-7E+07	-5E+07	-1E+08	-1E+08	-6E+07
	-1E+05	-1E+08	-3E+07	-4E+07	5E+08	73972	-5E+07	-4E+07	-1E+08	-36009	-4E+07

	-4E+07	-1E+08	-3E+07	-6E+07	3E+08	1E+06	-4E+07	-4E+07	-1E+08	-6E+07	-5E+07	-7E+06
	-4E+05	-1E+08	-1E+07	-3E+07	3E+08	4E+07	-6E+07	-4E+07	-1E+08	-5E+07	-3E+07	-3E+07
	-8E+07	-1E+08	73972	-1E+07	4E+08	2E+07	-3E+07	-4E+07	-1E+08	-6E+07	-5E+07	
	-7E+07	-2E+08	-7E+07	-5E+07	2E+09	8E+07				-4E+07		-5E+07
	-4E+07	-1E+08	-6E+07	-6E+07	3E+09	6E+08			-1E+08	-6E+07		-1E+08

X_{bar} = 549.02
SD = 1118.8
N = 218
$1/N\Sigma_i(X_i-X_{bar})^3$ = 8E+09
γ_1 = 5.6677

Since the Coefficient of Skewness of 5.67 is greater than 1.0, the data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15
ln =	5.5215			5.4806	6.0403	5.2983	4.1431	5.7038	4.5326	5.4381	0.9163	
	5.7038	4.2047										
	5.7991	3.4012										
				5.7991	4.5218							
	7.1701	5.9402		5.193	5.7991	4.7875	4.382	5.6699	5.8861	6.8773	4.8675	
	7.1701	3.7136		0.9163	0.9163	5.0752	3.1355	5.247	6.1312	7.2442	4.7005	
	5.7991	6.2146	6.6201	8.3428	4.7875	5.4381	4.5326	6.0162	6.8134	7.2442	4.9416	9.3057
	6.3969	4.1897	5.3936	7.4955	5.0752	4.9416	4.7005	4.5218	5.8861	6.6846	4.9416	7.9374
	5.7683	4.6052		5.3471	5.7366	4.8675	4.5539	4.7005	7.0901	5.5984	4.8675	8.497
	5.7683	4.0254	4.7875	6.0162	6.1312	5.1358	4.9416	5.3471	4.1271	6.8459	5.0106	7.6009
	5.7683	3.6889	5.2983	5.7038	5.7366	4.9416	4.9416	4.8675	2.4849	6.8024	4.7005	8.497
	6.1738	4.0073	5.0752	8.8818	6.4135	5.193	5.0752	4.9416	2.4849	6.9078	4.9416	8.2161
	6.6464	3.6109	5.0752	7.4384	6.7685	5.5215	5.0752	4.9416	3.2958	6.697	5.0106	7.901
	6.477	5.5215	5.5215	5.5215	7.0031	5.5215	5.5215	5.5215	5.5215	6.6201	5.5215	7.901
	6.0162	3.091	5.193	6.1527	7.0031	0.9163	0.9163	0.9163	5.0752	0.9163	0.9163	6.477
	5.6699	3.912	5.2983	5.4806	7.1701	7.3132	4.8675	5.193	3.912	3.912	5.0752	6.3969
	6.2166	3.45	5.4072	5.2883	7.2079	6.3818	5.2149	5.3375	4.1336	6.2461	5.3033	6.7708
	5.2679	3.4275	5.5334	5.124	7.1148	6.4938	5.3753	5.3083	4.1239	5.0173	5.2204	5.8889
	6.1612	4.1897	5.7462	5.4116	7.0984	6.7957	5.0999	5.3753	3.716	5.204	5.4972	5.5013
	4.8363	3.8544	6.3818	5.7333	7.1701	6.7056	5.4381	5.3753	4.3438	5.0938	5.1761	
	4.8752	2.8214	4.9698	5.2364	7.4501	6.8947				5.3423		5.1818
	5.3375	3.7728	5.0304	5.0562	7.5601	7.2298			3.0397	5.0106		4.3148
X_i values =	0.0035			0.0014	0.3022	-4E-04	-1.843	0.0375	-0.586	0.0003	-88.29	
	0.0375	-1.579										
	0.0794	-7.622										
				0.0794	-0.609							
	5.8409	0.1861		-0.005	0.0794	-0.197	-0.962	0.0272	0.1381	3.4299	-0.126	
	5.8409	-4.538		-88.29	-88.29	-0.025	-11.15	-0.002	0.4425	6.592	-0.299	
	0.0794	0.6042	1.9572	26.294	-0.197	0.0003	-0.586	0.2708	3.0124	6.592	-0.078	60.997
	1.0855	-1.641	1E-05	9.6138	-0.025	-0.078	-0.299	-0.609	0.1381	2.276	-0.078	16.938
	0.0636	-0.446		-1E-05	0.0496	-0.126	-0.542	-0.299	5.0962	0.012	-0.126	30.599
	0.0636	-2.427	-0.197	0.2708	0.4425	-0.013	-0.078	-1E-05	-1.916	3.22	-0.046	11.115
	0.0636	-4.744	-4E-04	0.0375	0.0496	-0.078	-0.078	-0.126	-24	2.9438	-0.299	30.599
	0.5208	-2.526	-0.025	43.341	1.1387	-0.005	-0.025	-0.078	-24	3.6419	-0.078	23.073
	2.0833	-5.436	-0.025	8.8591	2.7398	0.0035	-0.025	-0.078	-8.913	2.3411	-0.046	16.229
	1.3594	0.0035	0.0035	0.0035	4.3616	0.0035	0.0035	0.0035	0.0035	1.9572	0.0035	16.229
	0.2708	-11.82	-0.005	0.481	4.3616	-88.29	-88.29	-88.29	-0.025	-88.29	-88.29	1.3594
	0.0272	-3.094	-4E-04	0.0014	5.8409	7.3468	-0.126	-0.005	-3.094	-3.094	-0.025	1.0855
	0.6085	-7.069	5E-05	-5E-04	6.2158	1.0383	-0.004	-3E-05	-1.887	0.6743	-3E-04	2.7533
	-0.001	-7.321	0.0044	-0.015	5.3187	1.4221	2E-07	-2E-04	-1.931	-0.044	-0.003	0.1403
	0.4968	-1.641	0.0536	8E-05	5.1702	2.9028	-0.02	2E-07	-4.518	-0.005	0.0021	0.0023
	-0.151	-3.476	1.0383	0.0483	5.8409	2.3869	0.0003	2E-07	-1.078	-0.021	-0.007	
	-0.121	-16.54	-0.064	-0.002	9.0102	3.5498				-2E-05		-0.007
	-3E-05	-4.069	-0.039	-0.031	10.516	6.4414			-12.64	-0.046		-1.172

X_{bar} = 5.3692
SD = 1.4651
N = 218
$1/N\Sigma_i(X_i-X_{bar})^3$ = -2.062
γ_1 = 0.6603

Since the Coefficient of Skewness of 0.66 is less than 1.0, the data appear not to be significantly skewed.
Proceed with further statistical tests using the log-transformed values shown above.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Barium**
NC MCL (µg/l):	2000
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-2	MDL
9/26/2002	**120**	**5**
4/28/2003	**160**	**5**
10/30/2003	**310**	**5**
4/20/2004	**460**	**5**
10/21/2004	**310**	**5**
4/18/2005	**610**	**5**
10/13/2005	**870**	**5**
4/25/2006	**1100**	**500**
10/20/2006	**1100**	**5**
4/25/2007	**1300**	**100**
10/31/2007	**1350**	**5**
4/23/2008	**1230**	**5**
10/20/2008	**1210**	**5**
4/22/2009	**1300**	**5**
10/26/2009	**1720**	**5**
4/22/2010	**1920**	**5**

If not detected (ND), use half of the detection limit.

		X_i values =
	120	-5.55E+08
	160	-4.78E+08
	310	-2.52E+08
	460	-1.12E+08
	310	-2.52E+08
	610	-36553050
	870	-371307.4
	1100	3953680.9
	1100	3953680.9
	1300	45930790
	1350	67979755
	1230	23918990
	1210	19275779
	1300	45930790
	1720	471137970
	1920	935800079

X_{bar} =	941.875
SD =	555.16026
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	-4290608
γ_1 =	0.0276253

Since the Coefficient of Skewness of 0.03 is less than 1.0, the data appear not to be significantly skewed.
Proceed with further statistical tests using the real detected values shown above.

		X_i values =
ln =	4.7874917	-5.848208
	5.0751738	-3.470274
	5.7365723	-0.619746
	6.1312265	-0.096029
	5.7365723	-0.619746
	6.413459	-0.005424
	6.7684932	0.0057676
	7.0030655	0.0709105
	7.0030655	0.0709105
	7.1701195	0.1960843
	7.2078599	0.2368344
	7.1147694	0.1452095
	7.0983756	0.1320417
	7.1701195	0.1960843
	7.4500796	0.6381036
	7.5600805	0.9152801

X_{bar} = 6.5891577
SD = 0.8518449
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.503263
γ_1= 0.8969249

Use the real values (not log-transformed) indicated in the previous section.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-2	MDL	Data for Testing
9/26/2002	**120**	5	120
4/28/2003	**160**	5	160
10/30/2003	**310**	5	310
4/20/2004	**460**	5	460
10/21/2004	**310**	5	310
4/18/2005	**610**	5	610
10/13/2005	**870**	5	870
4/25/2006	**1100**	500	1100
10/20/2006	**1100**	5	1100
4/25/2007	**1300**	100	1300
10/31/2007	**1350**	5	1350
4/23/2008	**1230**	5	1230
10/20/2008	**1210**	5	1210
4/22/2009	**1300**	5	1300
10/26/2009	**1720**	5	1720
4/22/2010	**1920**	5	1920

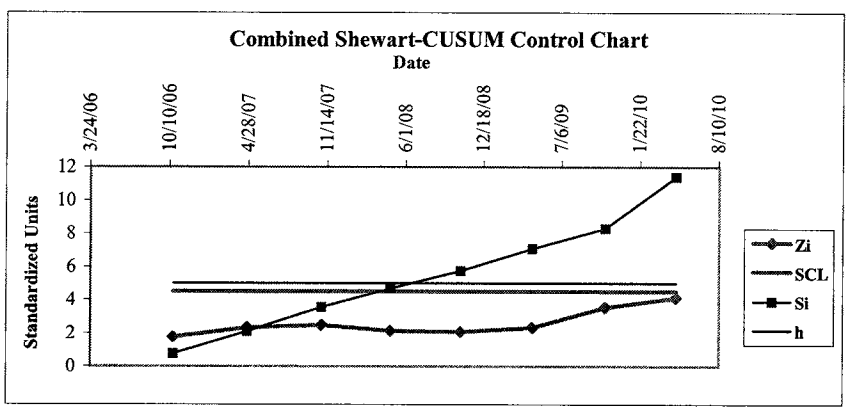
Compute the mean and standard deviation of the historical data:

492.5 = x_{mean} (Mean of N1-N8 historical data)
346.89438 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	1100	1.75125348	0.7512535	5	4.5
4/25/2007	1300	2.32779784	2.0790513	5	4.5
10/31/2007	1350	2.47193393	3.5509853	5	4.5
4/23/2008	1230	2.12600732	4.6769926	5	4.5
10/20/2008	**1210**	2.06835288	**5.7453454**	5	4.5
4/22/2009	**1300**	2.32779784	**7.0731433**	5	4.5
10/26/2009	**1720**	3.53854099	**8.2838864**	5	4.5
4/22/2010	**1920**	4.11508535	**11.398972**	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h.
One, or both, of the control limits was exceeded. Therefore, there is statistically significant evidence of contamination in this well at the concentrations indicated above.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Barium**
NC MCL (µg/l):	2000
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**11000**	**5**
4/28/2003	**2800**	**5**
10/30/2003	**4900**	**5**
4/20/2004	**2000**	**5**
10/21/2004	**4900**	**5**
4/18/2005	**3700**	**5**
10/13/2005	**2700**	**5**
4/25/2006	**2700**	**500**
10/20/2006	**650**	**5**
4/25/2007	**600**	**100**
10/31/2007	**872**	**5**
4/23/2008	**361**	**5**
10/20/2008	**245**	**5**
4/22/2009	NS	**5**
10/26/2009	**178**	**5**
4/22/2010	**74.8**	**5**

If not detected (ND), use half of the detection limit.

11000	X_i values =	6.115E+11
2800		23874603
4900		1.362E+10
2000		-1.34E+08
4900		1.362E+10
3700		1.676E+09
2700		6639018.6
2700		6639018.6
650		-6.46E+09
600		-6.99E+09
872		-4.41E+09
361		-9.95E+09
245		-1.17E+10
178		-1.27E+10
74.8		-1.45E+10

X_{bar} = 2512.0533
SD = 2881.5215
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = 3.824E+10
γ_1 = 1.7727707

Since the Coefficient of Skewness of 1.77 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	9.3056506	X_i values = 10.840149
	7.9373747	0.6030913
	8.4969905	2.7705125
	7.6009025	0.1314114
	8.4969905	2.7705125
	8.2160881	1.4184892
	7.9010071	0.5285157
	7.9010071	0.5285157
	6.4769724	-0.233203
	6.3969297	-0.336524
	6.7707894	-0.033295
	5.888878	-1.743677
	5.5012582	-4.029074
	5.1817836	-6.975671
	4.3148179	-21.43116

X_{bar} = 7.092496
SD = 1.4317479
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = -1.012761
γ_1 = 0.3826943

Since the Coefficient of Skewness of 0.38 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**11000**	5	9.3056506
4/28/2003	**2800**	5	7.9373747
10/30/2003	**4900**	5	8.4969905
4/20/2004	**2000**	5	7.6009025
10/21/2004	**4900**	5	8.4969905
4/18/2005	**3700**	5	8.2160881
10/13/2005	**2700**	5	7.9010071
4/25/2006	**2700**	500	7.9010071
10/20/2006	**650**	5	6.4769724
4/25/2007	**600**	100	6.3969297
10/31/2007	**872**	5	6.7707894
4/23/2008	**361**	5	5.888878
10/20/2008	**245**	5	5.5012582
4/22/2009	NS	5	-
10/26/2009	**178**	5	5.1817836
4/22/2010	**74.8**	5	4.3148179

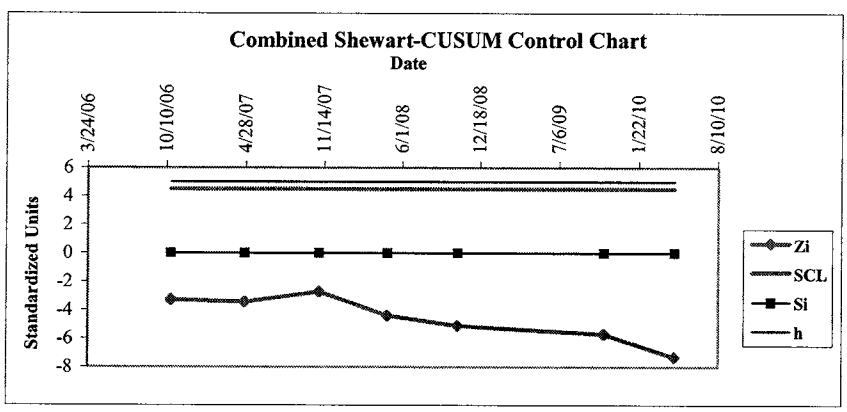
Compute the mean and standard deviation of the historical data:

8.2320014 = x_{mean} (Mean of N1-N8 historical data)
0.5342043 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	6.4769724	-3.2853144	0	5	4.5
4/25/2007	6.3969297	-3.4351498	0	5	4.5
10/31/2007	6.7707894	-2.7353056	0	5	4.5
4/23/2008	5.888878	-4.3861937	0	5	4.5
10/20/2008	5.5012582	-5.1117958	0	5	4.5
10/26/2009	5.1817836	-5.7098342	0	5	4.5
4/22/2010	4.3148179	-7.3327445	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h. The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Beryllium**
NC MCL (µg/l): Not Established
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	**4.4**	NS	NS	ND	**2**	ND	**2.2**	ND	ND	ND	ND	NS	**2**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	**2**
04/09/01	**2.3**	**7**	NS	ND	ND	ND	ND	ND	**2.4**	**4.8**	ND	NS	**2**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
04/15/02	**2.1**	ND	NS	ND	ND	ND	ND	ND	**2.5**	**5**	ND	NS	**2**
09/26/02	ND	**7**	**2.1**	**5.1**	ND	ND	ND	ND	**8.5**	**4.7**	ND	**95**	**2**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	**2**	**2.2**	ND	**20**	**2**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	**2.4**	ND	ND	**33**	**1**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**21**	**1**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.4**	ND	**28**	**1**
04/18/05	ND	ND	ND	**7.2**	ND	ND	ND	ND	ND	**3.8**	ND	**26**	**1**
10/13/05	ND	ND	ND	**3**	ND	ND	ND	ND	ND	**3.4**	ND	**21**	**1**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	**2.1**	ND	ND	**17**	**2**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.7**	**1**
04/25/07	ND	ND	ND	ND	ND	**14**	ND	ND	ND	ND	ND	**4.9**	**1**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6**	**1**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3**	**1**
10/20/08	ND	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.9**	**1**
04/22/09	ND	ND	**1.5**	ND	ND	ND	ND	ND	ND	ND	ND	NS	**1**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	**1.7**	**1**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	**1**
N_i	21	20	15	19	19	19	17	17	18	19	17	15	
sum of rank values (R_i)	2152.0	2081.0	1506.0	2007.5	1765.5	1792.0	1594.5	1496.0	2198.5	2402.5	1496.0	2944.5	
avg rank value (Rbar)	102.5	104.1	100.4	105.7	92.9	94.3	93.8	88.0	122.1	126.4	88.0	196.3	

	Number of each rank value												Rank Value
rank value of NDs =	18	17	13	16	18	18	16	17	12	12	17	1	88
rank value of 1.2s =	0	1	0	0	0	0	0	0	0	0	0	0	176
rank value of 1.4s =	0	0	0	0	0	0	0	0	0	1	0	0	177
rank value of 1.5s =	0	0	1	0	0	0	0	0	0	0	0	0	178
rank value of 1.7s =	0	0	0	0	0	0	0	0	0	0	0	1	179
rank value of 1.9s =	0	0	0	0	0	0	0	0	0	0	0	1	180
rank value of 2s =	0	0	0	0	1	0	0	0	1	0	0	0	181.5
rank value of 2.1s =	1	0	1	0	0	0	0	0	1	0	0	0	184
rank value of 2.2s =	0	0	0	0	0	0	1	0	0	1	0	0	186.5
rank value of 2.3s =	1	0	0	0	0	0	0	0	0	0	0	0	188
rank value of 2.4s =	0	0	0	0	0	0	0	0	2	0	0	0	189.5
rank value of 2.5s =	0	0	0	0	0	0	0	0	1	0	0	0	191
rank value of 3s =	0	0	0	1	0	0	0	0	0	0	0	1	192.5
rank value of 3.4s =	0	0	0	0	0	0	0	0	0	1	0	0	194
rank value of 3.8s =	0	0	0	0	0	0	0	0	0	1	0	0	195
rank value of 4.4s =	1	0	0	0	0	0	0	0	0	0	0	0	196
rank value of 4.5s =	0	0	0	0	0	0	0	0	0	1	0	0	197
rank value of 4.7s =	0	0	0	0	0	0	0	0	0	1	0	0	198
rank value of 4.8s =	0	0	0	0	0	0	0	0	0	1	0	0	199
rank value of 4.9s =	0	0	0	0	0	0	0	0	0	0	0	1	200
rank value of 5.1s =	0	0	0	1	0	0	0	0	0	0	0	0	201
rank value of 5.7s =	0	0	0	0	0	0	0	0	0	0	0	1	202

rank value of 6s =	0	0	0	0	0	0	0	0	0	0	0	1	203
rank value of 7s =	0	2	0	0	0	0	0	0	0	0	0	0	204.5
rank value of 7.2s =	0	0	0	1	0	0	0	0	0	0	0	0	206
rank value of 8.5s =	0	0	0	0	0	0	0	0	1	0	0	0	207
rank value of 14s =	0	0	0	0	0	1	0	0	0	0	0	0	208
rank value of 17s =	0	0	0	0	0	0	0	0	0	0	0	1	209
rank value of 20s =	0	0	0	0	0	0	0	0	0	0	0	1	210
rank value of 21s =	0	0	0	0	0	0	0	0	0	0	0	2	211.5
rank value of 26s =	0	0	0	0	0	0	0	0	0	0	0	1	213
rank value of 28s =	0	0	0	0	0	0	0	0	0	0	0	1	214
rank value of 33s =	0	0	0	0	0	0	0	0	0	0	0	1	215
rank value of 95s =	0	0	0	0	0	0	0	0	0	0	0	1	216
n =	**21**	**20**	**15**	**19**	**19**	**19**	**17**	**17**	**18**	**19**	**17**	**15**	

Sum of rank value calculations

1584	1496	1144	1408	1584	1584	1408	1496	1056	1056	1496	88
0	176	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	177	0	0
0	0	178	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	179
0	0	0	0	0	0	0	0	0	0	0	180
0	0	0	0	181.5	0	0	0	181.5	0	0	0
184	0	184	0	0	0	0	0	184	0	0	0
0	0	0	0	0	0	186.5	0	0	186.5	0	0
188	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	379	0	0	0
0	0	0	0	0	0	0	0	191	0	0	0
0	0	0	192.5	0	0	0	0	0	0	0	192.5
0	0	0	0	0	0	0	0	0	194	0	0
0	0	0	0	0	0	0	0	0	195	0	0
196	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	197	0	0
0	0	0	0	0	0	0	0	0	198	0	0
0	0	0	0	0	0	0	0	0	199	0	0
0	0	0	0	0	0	0	0	0	0	0	200
0	0	0	201	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	202
0	0	0	0	0	0	0	0	0	0	0	203
0	409	0	0	0	0	0	0	0	0	0	0
0	0	0	206	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	207	0	0	0
0	0	0	0	0	208	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	209
0	0	0	0	0	0	0	0	0	0	0	210
0	0	0	0	0	0	0	0	0	0	0	423
0	0	0	0	0	0	0	0	0	0	0	213
0	0	0	0	0	0	0	0	0	0	0	214
0	0	0	0	0	0	0	0	0	0	0	215
0	0	0	0	0	0	0	0	0	0	0	216

sum of rank values (R_i)	**2152**	**2081**	**1506**	**2007.5**	**1765.5**	**1792**	**1594.5**	**1496**	**2198.5**	**2402.5**	**1496**	**2944.5**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	588145.0	212108	164052	169014	149555	131648	268522	303790	131648	578005

$N_{i\,bg}$ = 56
N = 216
H = 39.34

Adjust H for ties:

T_i = 5E+06 sum of T1..T6

$H' = H/(1-(T_i/(N^3-N)))$
H' = 84.04
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is less than H' =84.04.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

Calculate the critical values to compare each compliance well to the background wells:

Critical Value (C_x) = $P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	**MW-15**
Rbar (well x) =	105.7	92.9	94.3	93.8	88.0	122.1	126.4	88.0	196.3
avg Rbar (background) =	102.5	102.5	102.5	102.5	102.5	102.5	102.5	102.5	102.5
Dx =	3.2	-9.6	-8.2	-8.7	-14.5	19.7	24.0	-14.5	93.8
Cx =	38.7	38.7	38.7	40.3	40.3	39.5	38.7	40.3	42.3
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	NE

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total Beryllium averaged over these compliance wells are significantly greater than that of the background wells.
Shewart-CUSUM Control Charts should be performed for each failing well to check for statistical significance.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Beryllium**
NC MCL (µg/l):	Not Established
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**95**	**2**
4/28/2003	**20**	**2**
10/30/2003	**33**	**1**
4/20/2004	**21**	**1**
10/21/2004	**28**	**1**
4/18/2005	**26**	**1**
10/13/2005	**21**	**1**
4/25/2006	**17**	**2**
10/20/2006	**5.7**	**1**
4/25/2007	**4.9**	**1**
10/31/2007	**6**	**1**
4/23/2008	**3**	**1**
10/20/2008	**1.9**	**1**
4/22/2009	NS	**1**
10/26/2009	**1.7**	**1**
4/22/2010	ND	**1**

If not detected (ND), use half of the detection limit.

95	X_i values =	439322.65
20		1.061208
33		2755.7768
21		8.242408
28		733.87081
26		345.94841
21		8.242408
17		-7.762392
5.7		-2342.04
4.9		-2791.309
6		-2186.876
3		-4080.659
1.9		-4982.687
1.7		-5159.78
0.5		-6311.112

X_{bar} =	18.98
SD =	23.678869
N =	15
$1/N\Sigma_i(X_i-X_{bar})^3$ =	27687.571
γ_1 =	2.3128465

Since the Coefficient of Skewness of 2.31 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	4.5538769	X_i values =	12.758302
	2.9957323		0.471868
	3.4965076		2.0937228
	3.0445224		0.5662596
	3.3322045		1.3861918
	3.2580965		1.1277574
	3.0445224		0.5662596
	2.8332133		0.2337537
	1.7404662		-0.108354
	1.5892352		-0.247638
	1.7917595		-0.077008
	1.0986123		-1.399641
	0.6418539		-3.909602
	0.5306283		-4.797542
	-0.693147		-24.65113

X_{bar} = 2.2172056
SD = 1.4047905
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = -1.065787
γ_1= 0.426364

Since the Coefficient of Skewness of 0.43 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**95**	2	4.5538769
4/28/2003	**20**	2	2.9957323
10/30/2003	**33**	1	3.4965076
4/20/2004	**21**	1	3.0445224
10/21/2004	**28**	1	3.3322045
4/18/2005	**26**	1	3.2580965
10/13/2005	**21**	1	3.0445224
4/25/2006	**17**	2	2.8332133
10/20/2006	**5.7**	1	1.7404662
4/25/2007	**4.9**	1	1.5892352
10/31/2007	**6**	1	1.7917595
4/23/2008	**3**	1	1.0986123
10/20/2008	**1.9**	1	0.6418539
4/22/2009	NS	1	-
10/26/2009	**1.7**	1	0.5306283
4/22/2010	ND	1	-0.693147

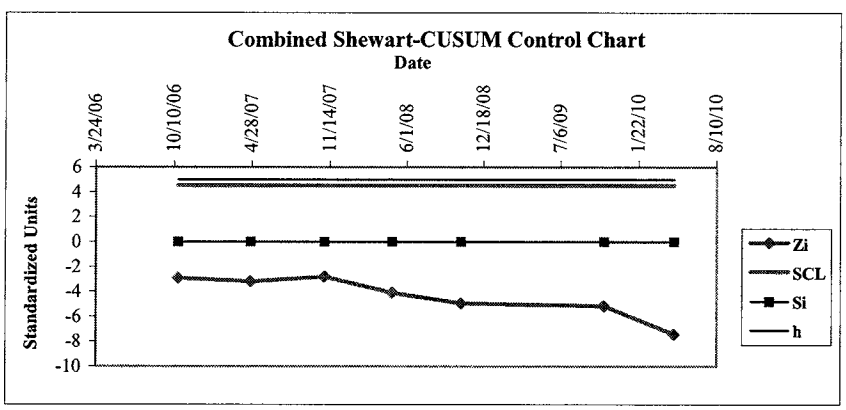
Compute the mean and standard deviation of the historical data:

3.3198345 = x_{mean} (Mean of N1-N8 historical data)
0.5413573 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	1.7404662	-2.9174229	0	5	4.5
4/25/2007	1.5892352	-3.1967781	0	5	4.5
10/31/2007	1.7917595	-2.8226735	0	5	4.5
4/23/2008	1.0986123	-4.103061	0	5	4.5
10/20/2008	0.6418539	-4.9467891	0	5	4.5
10/26/2009	0.5306283	-5.152246	0	5	4.5
4/22/2010	-0.693147	-7.4128146	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h. The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Cadmium**
NC MCL (µg/l): 1.75
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	**2**	NS	NS	ND	**1.3**	**1.2**	**1.3**	**2.1**	ND	**5.4**	ND	NS	**1**
06/26/00	**1.6**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
07/26/00	**1.1**	**3.2**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	**1**
04/09/01	**130**	**2**	NS	ND	ND	ND	**1.7**	**1.8**	**2.7**	**19**	ND	NS	**1**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
04/15/02	**13**	ND	NS	ND	ND	ND	**4**	ND	**5.5**	**19**	ND	NS	**10**
09/26/02	ND	ND	**4.2**	**21**	ND	**10**	ND	**2.3**	**4.2**	**19**	ND	**180**	**1**
04/28/03	**3.6**	ND	ND	**6**	ND	ND	ND	ND	**2.9**	**16**	ND	**20**	**1**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8.8**	ND	**8.9**	**1**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
10/13/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
10/20/06	**3.8**	ND	ND	ND	ND	ND	ND	ND	**1.5**	ND	ND	**5.2**	**1**
04/25/07	ND	ND	ND	ND	ND	**2.2**	ND	ND	ND	ND	ND	ND	**1**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.6**	**1**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**1**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	**1**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	**1**
N_i	21	20	15	19	19	19	17	17	18	19	17	15	
sum of rank values (R_i)	2621.0	1994.5	1452.5	1939.5	1792.5	2010.0	1818.5	1822.0	2136.0	2412.5	1521.5	1915.5	
avg rank value (Rbar)	124.8	99.7	96.8	102.1	94.3	105.8	107.0	107.2	118.7	127.0	89.5	127.7	

	Number of each rank value												Rank Value
rank value of NDs =	14	18	14	17	18	16	14	14	13	13	17	10	89.5
rank value of 1.1s =	1	0	0	0	0	0	0	0	0	0	0	0	179
rank value of 1.2s =	0	0	0	0	0	1	0	0	0	0	0	0	180
rank value of 1.3s =	0	0	0	0	1	0	1	0	0	0	0	0	181.5
rank value of 1.5s =	0	0	0	0	0	0	0	0	1	0	0	0	183
rank value of 1.6s =	1	0	0	0	0	0	0	0	0	0	0	1	184.5
rank value of 1.7s =	0	0	0	0	0	0	1	0	0	0	0	0	186
rank value of 1.8s =	0	0	0	0	0	0	0	1	0	0	0	0	187
rank value of 2s =	1	1	0	0	0	0	0	0	0	0	0	0	188.5
rank value of 2.1s =	0	0	0	0	0	0	0	1	0	0	0	0	190
rank value of 2.2s =	0	0	0	0	0	1	0	0	0	0	0	0	191
rank value of 2.3s =	0	0	0	0	0	0	0	1	0	0	0	0	192
rank value of 2.7s =	0	0	0	0	0	0	0	0	1	0	0	0	193
rank value of 2.9s =	0	0	0	0	0	0	0	0	1	0	0	0	194
rank value of 3.2s =	0	1	0	0	0	0	0	0	0	0	0	0	195
rank value of 3.6s =	1	0	0	0	0	0	0	0	0	0	0	0	196
rank value of 3.8s =	1	0	0	0	0	0	0	0	0	0	0	0	197
rank value of 4s =	0	0	0	0	0	0	1	0	0	0	0	0	198
rank value of 4.2s =	0	0	1	0	0	0	0	0	1	0	0	0	199.5
rank value of 5.2s =	0	0	0	0	0	0	0	0	0	0	0	1	201
rank value of 5.4s =	0	0	0	0	0	0	0	0	0	1	0	0	202

rank value of 5.5s =	0	0	0	0	0	0	0	0	1	0	0	0	203
rank value of 6s =	0	0	0	1	0	0	0	0	0	0	0	0	204
rank value of 8.8s =	0	0	0	0	0	0	0	0	0	1	0	0	205
rank value of 8.9s =	0	0	0	0	0	0	0	0	0	0	0	1	206
rank value of 10s =	0	0	0	0	0	1	0	0	0	0	0	0	207
rank value of 13s =	1	0	0	0	0	0	0	0	0	0	0	0	208
rank value of 16s =	0	0	0	0	0	0	0	0	0	1	0	0	209
rank value of 19s =	0	0	0	0	0	0	0	0	0	3	0	0	211
rank value of 20s =	0	0	0	0	0	0	0	0	0	0	0	1	213
rank value of 21s =	0	0	0	1	0	0	0	0	0	0	0	0	214
rank value of 130s =	1	0	0	0	0	0	0	0	0	0	0	0	215
rank value of 180s =	0	0	0	0	0	0	0	0	0	0	0	1	216
n =	**21**	**20**	**15**	**19**	**19**	**19**	**17**	**17**	**18**	**19**	**17**	**15**	

Sum of rank value calculations

1253	1611	1253	1521.5	1611	1432	1253	1253	1163.5	1163.5	1521.5	895
179	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	180	0	0	0	0	0	0
0	0	0	0	181.5	0	181.5	0	0	0	0	0
0	0	0	0	0	0	0	0	183	0	0	0
184.5	0	0	0	0	0	0	0	0	0	0	184.5
0	0	0	0	0	0	186	0	0	0	0	0
0	0	0	0	0	0	0	187	0	0	0	0
188.5	188.5	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	190	0	0	0	0
0	0	0	0	0	191	0	0	0	0	0	0
0	0	0	0	0	0	0	192	0	0	0	0
0	0	0	0	0	0	0	0	193	0	0	0
0	0	0	0	0	0	0	0	194	0	0	0
0	195	0	0	0	0	0	0	0	0	0	0
196	0	0	0	0	0	0	0	0	0	0	0
197	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	198	0	0	0	0	0
0	0	199.5	0	0	0	0	0	199.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	201
0	0	0	0	0	0	0	0	0	202	0	0
0	0	0	0	0	0	0	0	203	0	0	0
0	0	0	204	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	205	0	0
0	0	0	0	0	0	0	0	0	0	0	206
0	0	0	0	0	207	0	0	0	0	0	0
208	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	209	0	0
0	0	0	0	0	0	0	0	0	633	0	0
0	0	0	0	0	0	0	0	0	0	0	213
0	0	0	214	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	216

sum of rank values (R_i)	**2621**	**1994.5**	**1452.5**	**1939.5**	**1792.5**	**2010**	**1818.5**	**1822**	**2136**	**2412.5**	**1521.5**	**1915.5**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	657511.1	197982	169108	212637	194526	195276	253472	306324	136174	244609

$N_{i\,bg}$ = 56
N = 216
H = 6.35

Adjust H for ties:

T_i = 6E+06 sum of T1..T4

$H' = H/(1-(T_i/(N^3-N)))$
H' = 14.43
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is greater than H' =14.43. Therefore, the null hypothesis of no contamination at the 5% level holds true and significant evidence of contamination does not exist.

Calculate the critical values to compare each compliance well to the background wells:

Critical Value (C_x) = $P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15
Rbar (well x) =	102.1	94.3	105.8	107.0	107.2	118.7	127.0	89.5	127.7
avg Rbar (background) =	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4	108.4
Dx =	-6.3	-14.0	-2.6	-1.4	-1.2	10.3	18.6	-18.9	19.3
Cx =	38.7	38.7	38.7	40.3	40.3	39.5	38.7	40.3	42.3
Statistical Significance ?	No	No	No	No	No	No	No	No	No
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	-

Compare each difference (Dx) with the corresponding critical value (Cx).
No compliance well's difference between average ranks exceeded its corresponding critical value at a 5% significance level. Therefore, we conclude that significant evidence of contamination does not exist at the 5% significance level.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Chromium**
NC MCL (µg/l): 50
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	15	NS	NS	18	17	11	ND	26	5.4	50	ND	NS	5
06/26/00	22	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
07/26/00	29	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	10
04/09/01	130	ND	NS	11	8.4	ND	ND	20	27	160	ND	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
04/15/02	170	ND	NS	ND	ND	5.7	7	10	56	180	ND	NS	5
09/26/02	33	5.4	33	510	ND	5.2	ND	37	36	230	ND	770	5
04/28/03	ND	ND	ND	89	ND	ND	ND	ND	ND	110	ND	27	5
10/30/03	30	ND	NT	ND	6.2	ND	ND	ND	31	4.6	ND	140	2
04/20/04	33	ND	2.1	45	13	ND	ND	11	3.5	190	ND	68	2
10/21/04	21	ND	2.8	16	2	ND	ND	ND	ND	120	ND	140	2
04/18/05	49	12	8.3	680	2.9	ND	ND	3.2	ND	210	ND	100	2
10/13/05	52	ND	3.7	230	4.7	ND	ND	ND	ND	150	ND	88	2
04/25/06	65	ND	16	ND	ND	ND	ND	ND	16	100	ND	93	10
10/20/06	50	ND	11	24	ND	ND	ND	ND	17	ND	ND	27	5
04/25/07	20	ND	ND	16	ND	410	ND	ND	ND	ND	ND	17	10
10/31/07	40.9	ND	11.9	10.9	7.8	ND	ND	ND	5.1	75.5	ND	33.7	5
04/23/08	10.7	ND	16.8	7.8	ND	ND	ND	ND	7.6	7.3	ND	14.9	5
10/20/08	38.6	ND	29.4	12.7	ND	ND	ND	ND	ND	ND	ND	6.8	5
04/22/09	12.3	ND	28.9	19.7	5.1	ND	ND	ND	7.3	ND	ND	NS	5
10/26/09	10	ND	8.1	ND	18.7	ND	NS	NS	NS	10.9	NS	8.1	5
04/22/10	14.3	10.9	13.1	ND	ND	ND	NS	NS	ND	ND	NS	ND	5
N_i	21	20	15	19	19	19	17	17	18	19	17	15	
sum of rank values (R_i)	3507.0	1411.5	1961.5	2635.5	1768.0	1385.5	971.0	1483.0	1999.0	2871.0	901.0	2542.0	
avg rank value (Rbar)	167.0	70.6	130.8	138.7	93.1	72.9	57.1	87.2	111.1	151.1	53.0	169.5	

	Number of each rank value												Rank Value
rank value of NDs =	1	16	2	5	9	15	16	11	7	5	17	1	53
rank value of 2s =	0	0	0	0	1	0	0	0	0	0	0	0	106
rank value of 2.1s =	0	0	1	0	0	0	0	0	0	0	0	0	107
rank value of 2.8s =	0	0	1	0	0	0	0	0	0	0	0	0	108
rank value of 2.9s =	0	0	0	0	1	0	0	0	0	0	0	0	109
rank value of 3.2s =	0	0	0	0	0	0	0	1	0	0	0	0	110
rank value of 3.5s =	0	0	0	0	0	0	0	0	1	0	0	0	111
rank value of 3.7s =	0	0	1	0	0	0	0	0	0	0	0	0	112
rank value of 4.6s =	0	0	0	0	0	0	0	0	0	1	0	0	113
rank value of 4.7s =	0	0	0	0	1	0	0	0	0	0	0	0	114
rank value of 5.1s =	0	0	0	0	1	0	0	0	1	0	0	0	115.5
rank value of 5.2s =	0	0	0	0	0	1	0	0	0	0	0	0	117
rank value of 5.4s =	0	1	0	0	0	0	0	0	1	0	0	0	118.5
rank value of 5.7s =	0	0	0	0	0	1	0	0	0	0	0	0	120
rank value of 6.2s =	0	0	0	0	1	0	0	0	0	0	0	0	121
rank value of 6.8s =	0	0	0	0	0	0	0	0	0	0	0	1	122
rank value of 7s =	0	0	0	0	0	0	1	0	0	0	0	0	123
rank value of 7.3s =	0	0	0	0	0	0	0	0	1	1	0	0	124.5
rank value of 7.6s =	0	0	0	0	0	0	0	0	1	0	0	0	126
rank value of 7.8s =	0	0	0	1	1	0	0	0	0	0	0	0	127.5
rank value of 8.1s =	0	0	1	0	0	0	0	0	0	0	0	1	129.5
rank value of 8.3s =	0	0	1	0	0	0	0	0	0	0	0	0	131
rank value of 8.4s =	0	0	0	0	1	0	0	0	0	0	0	0	132
rank value of 10s =	1	0	0	0	0	0	0	1	0	0	0	0	133.5
rank value of 10.7s =	1	0	0	0	0	0	0	0	0	0	0	0	135

rank value of 10.9s =	0	1	0	1	0	0	0	0	0	1	0	0	137
rank value of 11s =	0	0	1	1	0	1	0	1	0	0	0	0	140.5
rank value of 11.9s =	0	0	1	0	0	0	0	0	0	0	0	0	143
rank value of 12s =	0	1	0	0	0	0	0	0	0	0	0	0	144
rank value of 12.3s =	1	0	0	0	0	0	0	0	0	0	0	0	145
rank value of 12.7s =	0	0	0	1	0	0	0	0	0	0	0	0	146
rank value of 13s =	0	0	0	0	1	0	0	0	0	0	0	0	147
rank value of 13.1s =	0	0	1	0	0	0	0	0	0	0	0	0	148
rank value of 14.3s =	1	0	0	0	0	0	0	0	0	0	0	0	149
rank value of 14.9s =	0	0	0	0	0	0	0	0	0	0	0	1	150
rank value of 15s =	1	0	0	0	0	0	0	0	0	0	0	0	151
rank value of 16s =	0	0	1	2	0	0	0	0	1	0	0	0	153.5
rank value of 16.8s =	0	0	1	0	0	0	0	0	0	0	0	0	156
rank value of 17s =	0	0	0	0	1	0	0	0	1	0	0	1	158
rank value of 18s =	0	0	0	1	0	0	0	0	0	0	0	0	160
rank value of 18.7s =	0	0	0	0	1	0	0	0	0	0	0	0	161
rank value of 19.7s =	0	0	0	1	0	0	0	0	0	0	0	0	162
rank value of 20s =	1	1	0	0	0	0	0	1	0	0	0	0	164
rank value of 21s =	1	0	0	0	0	0	0	0	0	0	0	0	166
rank value of 22s =	1	0	0	0	0	0	0	0	0	0	0	0	167
rank value of 24s =	0	0	0	1	0	0	0	0	0	0	0	0	168
rank value of 26s =	0	0	0	0	0	0	0	1	0	0	0	0	169
rank value of 27s =	0	0	0	0	0	0	0	0	1	0	0	2	171
rank value of 28.9s =	0	0	1	0	0	0	0	0	0	0	0	0	173
rank value of 29s =	1	0	0	0	0	0	0	0	0	0	0	0	174
rank value of 29.4s =	0	0	1	0	0	0	0	0	0	0	0	0	175
rank value of 30s =	1	0	0	0	0	0	0	0	0	0	0	0	176
rank value of 31s =	0	0	0	0	0	0	0	0	1	0	0	0	177
rank value of 33s =	2	0	1	0	0	0	0	0	0	0	0	0	179
rank value of 33.7s =	0	0	0	0	0	0	0	0	0	0	0	1	181
rank value of 36s =	0	0	0	0	0	0	0	0	1	0	0	0	182
rank value of 37s =	0	0	0	0	0	0	0	1	0	0	0	0	183
rank value of 38.6s =	1	0	0	0	0	0	0	0	0	0	0	0	184
rank value of 40.9s =	1	0	0	0	0	0	0	0	0	0	0	0	185
rank value of 45s =	0	0	0	1	0	0	0	0	0	0	0	0	186
rank value of 49s =	1	0	0	0	0	0	0	0	0	0	0	0	187
rank value of 50s =	1	0	0	0	0	0	0	0	0	1	0	0	188.5
rank value of 52s =	1	0	0	0	0	0	0	0	0	0	0	0	190
rank value of 56s =	0	0	0	0	0	0	0	0	1	0	0	0	191
rank value of 65s =	1	0	0	0	0	0	0	0	0	0	0	0	192
rank value of 68s =	0	0	0	0	0	0	0	0	0	0	0	1	193
rank value of 75.5s =	0	0	0	0	0	0	0	0	0	1	0	0	194
rank value of 88s =	0	0	0	0	0	0	0	0	0	0	0	1	195
rank value of 89s =	0	0	0	1	0	0	0	0	0	0	0	0	196
rank value of 93s =	0	0	0	0	0	0	0	0	0	0	0	1	197
rank value of 100s =	0	0	0	0	0	0	0	0	0	1	0	1	198.5
rank value of 110s =	0	0	0	0	0	0	0	0	0	1	0	0	200
rank value of 120s =	0	0	0	0	0	0	0	0	0	1	0	0	201
rank value of 130s =	1	0	0	0	0	0	0	0	0	0	0	0	202
rank value of 140s =	0	0	0	0	0	0	0	0	0	0	0	2	203.5
rank value of 150s =	0	0	0	0	0	0	0	0	0	1	0	0	205
rank value of 160s =	0	0	0	0	0	0	0	0	0	1	0	0	206
rank value of 170s =	1	0	0	0	0	0	0	0	0	0	0	0	207
rank value of 180s =	0	0	0	0	0	0	0	0	0	1	0	0	208
rank value of 190s =	0	0	0	0	0	0	0	0	0	1	0	0	209
rank value of 210s =	0	0	0	0	0	0	0	0	0	1	0	0	210
rank value of 230s =	0	0	0	1	0	0	0	0	0	1	0	0	211.5
rank value of 410s =	0	0	0	0	0	1	0	0	0	0	0	0	213
rank value of 510s =	0	0	0	1	0	0	0	0	0	0	0	0	214
rank value of 680s =	0	0	0	1	0	0	0	0	0	0	0	0	215
rank value of 770s =	0	0	0	0	0	0	0	0	0	0	0	1	216
n =	**21**	**20**	**15**	**19**	**19**	**19**	**17**	**17**	**18**	**19**	**17**	**15**	

Sum of rank value calculations

53	848	106	265	477	795	848	583	371	265	901	53
0	0	0	0	106	0	0	0	0	0	0	0

0	0	107	0	0	0	0	0	0	0	0	0
0	0	108	0	0	0	0	0	0	0	0	0
0	0	0	0	109	0	0	0	0	0	0	0
0	0	0	0	0	0	0	110	0	0	0	0
0	0	0	0	0	0	0	0	111	0	0	0
0	0	112	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	113	0	0
0	0	0	0	114	0	0	0	0	0	0	0
0	0	0	0	115.5	0	0	0	115.5	0	0	0
0	0	0	0	0	117	0	0	0	0	0	0
0	118.5	0	0	0	0	0	0	118.5	0	0	0
0	0	0	0	0	120	0	0	0	0	0	0
0	0	0	0	121	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	122
0	0	0	0	0	0	123	0	0	0	0	0
0	0	0	0	0	0	0	0	124.5	124.5	0	0
0	0	0	0	0	0	0	0	126	0	0	0
0	0	0	127.5	127.5	0	0	0	0	0	0	0
0	0	129.5	0	0	0	0	0	0	0	0	129.5
0	0	131	0	0	0	0	0	0	0	0	0
0	0	0	0	132	0	0	0	0	0	0	0
133.5	0	0	0	0	0	0	133.5	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0
0	137	0	137	0	0	0	0	0	137	0	0
0	0	140.5	140.5	0	140.5	0	140.5	0	0	0	0
0	0	143	0	0	0	0	0	0	0	0	0
0	144	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0
0	0	0	146	0	0	0	0	0	0	0	0
0	0	0	0	147	0	0	0	0	0	0	0
0	0	148	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	150
151	0	0	0	0	0	0	0	0	0	0	0
0	0	153.5	307	0	0	0	0	153.5	0	0	0
0	0	156	0	0	0	0	0	0	0	0	0
0	0	0	0	158	0	0	0	158	0	0	158
0	0	0	160	0	0	0	0	0	0	0	0
0	0	0	0	161	0	0	0	0	0	0	0
0	0	0	162	0	0	0	0	0	0	0	0
164	164	0	0	0	0	0	164	0	0	0	0
166	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0
0	0	0	168	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	169	0	0	0	0
0	0	0	0	0	0	0	0	171	0	0	342
0	0	173	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0	0
0	0	175	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	177	0	0	0
358	0	179	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	181
0	0	0	0	0	0	0	0	182	0	0	0
0	0	0	0	0	0	0	183	0	0	0	0
184	0	0	0	0	0	0	0	0	0	0	0
185	0	0	0	0	0	0	0	0	0	0	0
0	0	0	186	0	0	0	0	0	0	0	0
187	0	0	0	0	0	0	0	0	0	0	0
188.5	0	0	0	0	0	0	0	0	188.5	0	0
190	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	191	0	0	0
192	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	193
0	0	0	0	0	0	0	0	0	194	0	0
0	0	0	0	0	0	0	0	0	0	0	195
0	0	0	196	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	197
0	0	0	0	0	0	0	0	0	198.5	0	198.5

	0	0	0	0	0	0	0	0	0	200	0	0
	0	0	0	0	0	0	0	0	0	201	0	0
	202	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	407
	0	0	0	0	0	0	0	0	0	205	0	0
	0	0	0	0	0	0	0	0	0	206	0	0
	207	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	208	0	0
	0	0	0	0	0	0	0	0	0	209	0	0
	0	0	0	0	0	0	0	0	0	210	0	0
	0	0	0	211.5	0	0	0	0	0	211.5	0	0
	0	0	0	0	0	213	0	0	0	0	0	0
	0	0	0	214	0	0	0	0	0	0	0	0
	0	0	0	215	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	216
sum of rank values (R_i)	**3507**	**1411.5**	**1961.5**	**2635.5**	**1768**	**1385.5**	**971**	**1483**	**1999**	**2871**	**901**	**2542**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	845257.1	365572	164517	101032	55461	129370	222000	433823	47753	430784

$N_{i\,bg}$ = 56
N = 216
H = 64.71

Adjust H for ties:

T_i = 1E+06 sum of T1..T3

$H' = H/(1-(T_i/(N^3-N)))$
H' = 73.11
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is less than H' =73.11.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

Calculate the critical values to compare each compliance well to the background wells:

Critical Value (C_x) = $P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	**MW-15**
Rbar (well x) =	138.7	93.1	72.9	57.1	87.2	111.1	151.1	53.0	169.5
avg Rbar (background) =	122.9	122.9	122.9	122.9	122.9	122.9	122.9	122.9	122.9
Dx =	15.9	-29.8	-49.9	-65.7	-35.6	-11.8	28.2	-69.9	46.6
Cx =	38.7	38.7	38.7	40.3	40.3	39.5	38.7	40.3	42.3
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	No

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total Chromium averaged over these compliance wells are significantly greater than that of the background wells.
Shewart-CUSUM Control Charts should be performed for each failing well to check for statistical significance.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Chromium**
NC MCL (µg/l):	50
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**770**	**5**
4/28/2003	**27**	**5**
10/30/2003	**140**	**2**
4/20/2004	**68**	**2**
10/21/2004	**140**	**2**
4/18/2005	**100**	**2**
10/13/2005	**88**	**2**
4/25/2006	**93**	**10**
10/20/2006	**27**	**5**
4/25/2007	**17**	**10**
10/31/2007	**33.7**	**5**
4/23/2008	**14.9**	**5**
10/20/2008	**6.8**	**5**
4/22/2009	NS	**5**
10/26/2009	**8.1**	**5**
4/22/2010	ND	**5**

If not detected (ND), use half of the detection limit.

770	X_i values =	297542484
27		-428661.1
140		53157.376
68		-40707.58
140		53157.376
100		-13.824
88		-2985.984
93		-830.584
27		-428661.1
17		-622835.9
33.7		-324242.7
14.9		-669921.9
6.8		-873722.8
8.1		-838561.8
2.5		-997003

X_{bar} =	102.4
SD =	190.68549
N =	15
$1/N\Sigma_i(X_i-X_{bar})^3$ =	19494710
γ_1 =	3.1182337

Since the Coefficient of Skewness of 3.12 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	6.6463905	X_i values = 26.575188
	3.2958369	-0.049177
	4.9416424	2.0943756
	4.2195077	0.1730882
	4.9416424	2.0943756
	4.6051702	0.8384622
	4.4773368	0.541601
	4.5325995	0.6593934
	3.2958369	-0.049177
	2.8332133	-0.569711
	3.5174978	-0.00303
	2.7013612	-0.887078
	1.9169226	-5.316172
	2.0918641	-3.872433
	0.9162907	-20.70438

X_{bar} = 3.6622075
SD = 1.4578101
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = 0.1016887
γ_1= 0.0364011

Since the Coefficient of Skewness of 0.04 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**770**	5	6.6463905
4/28/2003	**27**	5	3.2958369
10/30/2003	**140**	2	4.9416424
4/20/2004	**68**	2	4.2195077
10/21/2004	**140**	2	4.9416424
4/18/2005	**100**	2	4.6051702
10/13/2005	**88**	2	4.4773368
4/25/2006	**93**	10	4.5325995
10/20/2006	**27**	5	3.2958369
4/25/2007	**17**	10	2.8332133
10/31/2007	**33.7**	5	3.5174978
4/23/2008	**14.9**	5	2.7013612
10/20/2008	**6.8**	5	1.9169226
4/22/2009	NS	5	-
10/26/2009	**8.1**	5	2.0918641
4/22/2010	ND	5	0.9162907

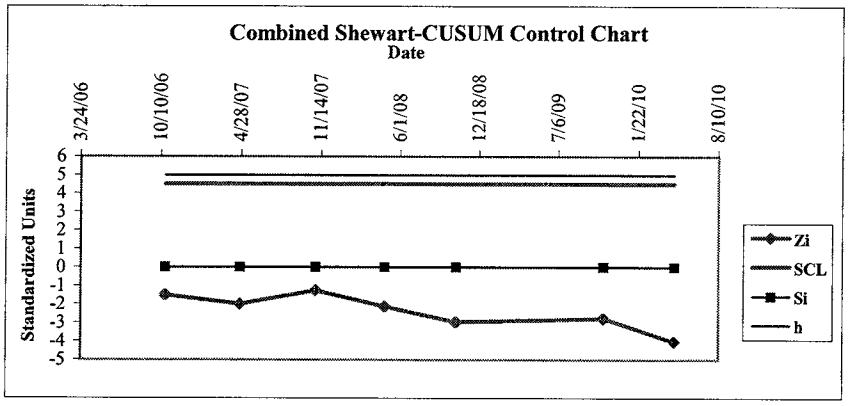
Compute the mean and standard deviation of the historical data:

4.7075158 = x_{mean} (Mean of N1-N8 historical data)
0.9406614 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	3.2958369	-1.5007301	0	5	4.5
4/25/2007	2.8332133	-1.9925367	0	5	4.5
10/31/2007	3.5174978	-1.2650864	0	5	4.5
4/23/2008	2.7013612	-2.1327063	0	5	4.5
10/20/2008	1.9169226	-2.9666286	0	5	4.5
10/26/2009	2.0918641	-2.7806516	0	5	4.5
4/22/2010	0.9162907	-4.0303821	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h. The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Cobalt**
NC MCL (µg/l): Not Established
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	ND	NS	NS	ND	8.2	5.4	ND	14	ND	16	ND	NS	5
06/26/00	10	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
07/26/00	9.9	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	10
04/09/01	54	ND	NS	ND	ND	ND	13	12	13	59	8.1	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
04/15/02	58	ND	NS	ND	ND	ND	18	8	21	82	6.8	NS	5
09/26/02	13	5.4	16	100	ND	16	7.4	21	19	85	7.7	560	5
04/28/03	21	ND	ND	37	ND	ND	6.9	ND	17	50	ND	81	5
10/30/03	9	ND	NT	ND	ND	ND	5.7	ND	52	8.8	ND	110	5
04/20/04	9.5	ND	ND	7.7	5.2	ND	13	6.4	ND	43	ND	50	5
10/21/04	6.2	ND	ND	ND	ND	ND	ND	ND	ND	31	ND	120	5
04/18/05	12	ND	ND	110	ND	ND	ND	ND	ND	36	ND	70	5
10/13/05	21	ND	ND	32	ND	ND	5.1	ND	ND	29	ND	56	5
04/25/06	16	ND	ND	ND	ND	ND	ND	ND	ND	25	ND	57	10
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
04/25/07	ND	ND	ND	ND	ND	260	ND	ND	ND	ND	ND	ND	10
10/31/07	16.8	ND	ND	ND	10.6	ND	ND	ND	ND	ND	ND	17.6	5
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22.3	5
10/20/08	27	10.4	19.5	9.4	7.7	ND	12.6	5.3	7.1	ND	ND	18.4	5
04/22/09	5	6.3	17.1	8.5	5.7	ND	7	ND	6.4	ND	7.4	NS	5
10/26/09	ND	ND	ND	ND	6	ND	NS	NS	NS	ND	NS	6	5
04/22/10	5.6	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	5
N_i	21	20	15	19	19	19	17	17	18	19	17	15	
sum of rank values (R_i)	3041.5	1545.5	1320.5	2064.5	1726.5	1565.0	1922.0	1674.0	1928.5	2650.0	1445.5	2552.5	
avg rank value (Rbar)	144.8	77.3	88.0	108.7	90.9	82.4	113.1	98.5	107.1	139.5	85.0	170.2	

	Number of each rank value												Rank Value
rank value of NDs =	5	17	12	12	13	16	8	11	11	8	13	3	65
rank value of 5s =	1	0	0	0	0	0	0	0	0	0	0	0	130
rank value of 5.1s =	0	0	0	0	0	0	1	0	0	0	0	0	131
rank value of 5.2s =	0	0	0	0	1	0	0	0	0	0	0	0	132
rank value of 5.3s =	0	0	0	0	0	0	0	1	0	0	0	0	133
rank value of 5.4s =	0	1	0	0	0	1	0	0	0	0	0	0	134.5
rank value of 5.6s =	1	0	0	0	0	0	0	0	0	0	0	0	136
rank value of 5.7s =	0	0	0	0	1	0	1	0	0	0	0	0	137.5
rank value of 6s =	0	0	0	0	1	0	0	0	0	0	0	1	139.5
rank value of 6.2s =	1	0	0	0	0	0	0	0	0	0	0	0	141
rank value of 6.3s =	0	1	0	0	0	0	0	0	0	0	0	0	142
rank value of 6.4s =	0	0	0	0	0	0	0	1	1	0	0	0	143.5
rank value of 6.8s =	0	0	0	0	0	0	0	0	0	0	1	0	145
rank value of 6.9s =	0	0	0	0	0	0	1	0	0	0	0	0	146
rank value of 7s =	0	0	0	0	0	0	1	0	0	0	0	0	147
rank value of 7.1s =	0	0	0	0	0	0	0	0	1	0	0	0	148
rank value of 7.4s =	0	0	0	0	0	0	1	0	0	0	1	0	149.5
rank value of 7.7s =	0	0	0	1	1	0	0	0	0	0	1	0	152
rank value of 8.1s =	0	0	0	0	0	0	0	0	0	0	1	0	154
rank value of 8.2s =	0	0	0	0	1	0	0	1	0	0	0	0	155.5
rank value of 8.5s =	0	0	0	1	0	0	0	0	0	0	0	0	157
rank value of 8.8s =	0	0	0	0	0	0	0	0	0	1	0	0	158
rank value of 9s =	1	0	0	0	0	0	0	0	0	0	0	0	159
rank value of 9.4s =	0	0	0	1	0	0	0	0	0	0	0	0	160
rank value of 9.5s =	1	0	0	0	0	0	0	0	0	0	0	0	161
rank value of 9.9s =	1	0	0	0	0	0	0	0	0	0	0	0	162
rank value of 10s =	1	0	0	0	0	0	0	0	0	0	0	0	163
rank value of 10.4s =	0	1	0	0	0	0	0	0	0	0	0	0	164
rank value of 10.6s =	0	0	0	0	1	0	0	0	0	0	0	0	165

rank value of 12s =	1	0	0	0	0	0	0	1	0	0	0	0	166.5
rank value of 12.6s =	0	0	0	0	0	0	1	0	0	0	0	0	168
rank value of 13s =	1	0	0	0	0	0	2	0	1	0	0	0	170.5
rank value of 14s =	0	0	0	0	0	0	0	1	0	0	0	0	173
rank value of 16s =	1	0	1	0	0	1	0	0	0	1	0	0	175.5
rank value of 16.8s =	1	0	0	0	0	0	0	0	0	0	0	0	178
rank value of 17s =	0	0	0	0	0	0	0	0	1	0	0	0	179
rank value of 17.1s =	0	0	1	0	0	0	0	0	0	0	0	0	180
rank value of 17.6s =	0	0	0	0	0	0	0	0	0	0	0	1	181
rank value of 18s =	0	0	0	0	0	0	1	0	0	0	0	0	182
rank value of 18.4s =	0	0	0	0	0	0	0	0	0	0	0	1	183
rank value of 19s =	0	0	0	0	0	0	0	0	1	0	0	0	184
rank value of 19.5s =	0	0	1	0	0	0	0	0	0	0	0	0	185
rank value of 21s =	2	0	0	0	0	0	0	1	1	0	0	0	187.5
rank value of 22.3s =	0	0	0	0	0	0	0	0	0	0	0	1	190
rank value of 25s =	0	0	0	0	0	0	0	0	0	1	0	0	191
rank value of 27s =	1	0	0	0	0	0	0	0	0	0	0	0	192
rank value of 29s =	0	0	0	0	0	0	0	0	0	1	0	0	193
rank value of 31s =	0	0	0	0	0	0	0	0	0	1	0	0	194
rank value of 32s =	0	0	0	1	0	0	0	0	0	0	0	0	195
rank value of 36s =	0	0	0	0	0	0	0	0	0	1	0	0	196
rank value of 37s =	0	0	0	1	0	0	0	0	0	0	0	0	197
rank value of 43s =	0	0	0	0	0	0	0	0	0	1	0	0	198
rank value of 50s =	0	0	0	0	0	0	0	0	0	1	0	1	199.5
rank value of 52s =	0	0	0	0	0	0	0	0	1	0	0	0	201
rank value of 54s =	1	0	0	0	0	0	0	0	0	0	0	0	202
rank value of 56s =	0	0	0	0	0	0	0	0	0	0	0	1	203
rank value of 57s =	0	0	0	0	0	0	0	0	0	0	0	1	204
rank value of 58s =	1	0	0	0	0	0	0	0	0	0	0	0	205
rank value of 59s =	0	0	0	0	0	0	0	0	0	1	0	0	206
rank value of 70s =	0	0	0	0	0	0	0	0	0	0	0	1	207
rank value of 81s =	0	0	0	0	0	0	0	0	0	0	0	1	208
rank value of 82s =	0	0	0	0	0	0	0	0	0	1	0	0	209
rank value of 85s =	0	0	0	0	0	0	0	0	0	1	0	0	210
rank value of 100s =	0	0	0	1	0	0	0	0	0	0	0	0	211
rank value of 110s =	0	0	0	1	0	0	0	0	0	0	0	1	212.5
rank value of 120s =	0	0	0	0	0	0	0	0	0	0	0	1	214
rank value of 260s =	0	0	0	0	0	1	0	0	0	0	0	0	215
rank value of 560s =	0	0	0	0	0	0	0	0	0	0	0	1	216
n =	**21**	**20**	**15**	**19**	**19**	**19**	**17**	**17**	**18**	**19**	**17**	**15**	

Sum of rank value calculations

325	1105	780	780	845	1040	520	715	715	520	845	195
130	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0	0	131	0	0	0	0	0
0	0	0	0	132	0	0	0	0	0	0	0
0	0	0	0	0	0	0	133	0	0	0	0
0	134.5	0	0	0	134.5	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	137.5	0	137.5	0	0	0	0	0
0	0	0	0	139.5	0	0	0	0	0	0	139.5
141	0	0	0	0	0	0	0	0	0	0	0
0	142	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	143.5	143.5	0	0	0
0	0	0	0	0	0	0	0	0	0	145	0
0	0	0	0	0	0	146	0	0	0	0	0
0	0	0	0	0	0	147	0	0	0	0	0
0	0	0	0	0	0	0	0	148	0	0	0
0	0	0	0	0	0	149.5	0	0	0	149.5	0
0	0	0	152	152	0	0	0	0	0	152	0
0	0	0	0	0	0	0	0	0	0	154	0
0	0	0	0	155.5	0	0	155.5	0	0	0	0
0	0	0	157	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	158	0	0
159	0	0	0	0	0	0	0	0	0	0	0
0	0	0	160	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0
0	164	0	0	0	0	0	0	0	0	0	0
0	0	0	0	165	0	0	0	0	0	0	0
166.5	0	0	0	0	0	0	166.5	0	0	0	0
0	0	0	0	0	0	168	0	0	0	0	0
170.5	0	0	0	0	0	341	0	170.5	0	0	0
0	0	0	0	0	0	0	173	0	0	0	0
175.5	0	175.5	0	0	175.5	0	0	0	175.5	0	0
178	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	179	0	0	0
0	0	180	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	181
0	0	0	0	0	0	182	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	183
0	0	0	0	0	0	0	0	184	0	0	0
0	0	185	0	0	0	0	0	0	0	0	0
375	0	0	0	0	0	0	187.5	187.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	190
0	0	0	0	0	0	0	0	0	191	0	0
192	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	193	0	0
0	0	0	0	0	0	0	0	0	194	0	0
0	0	0	195	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	196	0	0
0	0	0	197	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	198	0	0
0	0	0	0	0	0	0	0	0	199.5	0	199.5
0	0	0	0	0	0	0	0	201	0	0	0
202	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	203
0	0	0	0	0	0	0	0	0	0	0	204
205	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	206	0	0
0	0	0	0	0	0	0	0	0	0	0	207
0	0	0	0	0	0	0	0	0	0	0	208
0	0	0	0	0	0	0	0	0	209	0	0
0	0	0	0	0	0	0	0	0	210	0	0
0	0	0	211	0	0	0	0	0	0	0	0
0	0	0	212.5	0	0	0	0	0	0	0	212.5
0	0	0	0	0	0	0	0	0	0	0	214
0	0	0	0	0	215	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	216

sum of rank values (R_i)	**3041.5**	**1545.5**	**1320.5**	**2064.5**	**1726.5**	**1565**	**1922**	**1674**	**1928.5**	**2650**	**1445.5**	**2552.5**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	623188.5	224324	156884	128907	217299	164840	206617	369605	122910	434350

$N_{i\,bg}$ = 56
N = 216
H = 27.17

Adjust H for ties:

T_i = 2E+06 sum of T1..T5

$H' = H/(1-(T_i/(N^3-N)))$
H' = 34.52
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is less than H' =34.52.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

Calculate the critical values to compare each compliance well to the background wells:

Critical Value (C_x) = $P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	**MW-15**
Rbar (well x) =	108.7	90.9	82.4	113.1	98.5	107.1	139.5	85.0	170.2
avg Rbar (background) =	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5
Dx =	3.2	-14.6	-23.1	7.6	-7.0	1.6	34.0	-20.5	64.7
Cx =	38.7	38.7	38.7	40.3	40.3	39.5	38.7	40.3	42.3
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	NE

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total Cobalt averaged over these compliance wells are significantly greater than that of the background wells.
Shewart-CUSUM Control Charts should be performed for each failing well to check for statistical significance.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Cobalt**
NC MCL (µg/l):	Not Established
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**560**	**5**
4/28/2003	**81**	**5**
10/30/2003	**110**	**5**
4/20/2004	**50**	**5**
10/21/2004	**120**	**5**
4/18/2005	**70**	**5**
10/13/2005	**56**	**5**
4/25/2006	**57**	**10**
10/20/2006	ND	**5**
4/25/2007	ND	**10**
10/31/2007	**17.6**	**5**
4/23/2008	**22.3**	**5**
10/20/2008	**18.4**	**5**
4/22/2009	NS	**5**
10/26/2009	**6**	**5**
4/22/2010	ND	**5**

If not detected (ND), use half of the detection limit.

560	X_i values =	111594953
81		14.646182
110		31097.384
50		-23279.33
120		71198.169
70		-625.7577
56		-11471.82
57		-10012.52
2.5		-439900.8
5		-397930.4
17.6		-226460.5
22.3		-178010.2
18.4		-217660.2
6		-381919.7
2.5		-439900.8

X_{bar} = 78.553333
SD = 138.64284
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = 7291339.4
γ_1 = 3.0343091

Since the Coefficient of Skewness of 3.03 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	6.3279368	X_i values = 25.866331
	4.3944492	1.0734992
	4.7004804	2.3523933
	3.912023	0.158777
	4.7874917	2.8449706
	4.2484952	0.6767644
	4.0253517	0.2807867
	4.0430513	0.3041762
	0.9162907	-14.78253
	1.6094379	-5.461896
	2.8678989	-0.126981
	3.1045867	-0.018808
	2.9123507	-0.096182
	1.7917595	-3.935084
	0.9162907	-14.78253

X_{bar} = 3.3705263
SD = 1.5512705
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.376421
γ_1 = 0.1118293

Since the Coefficient of Skewness of 0.11 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**560**	5	6.3279368
4/28/2003	**81**	5	4.3944492
10/30/2003	**110**	5	4.7004804
4/20/2004	**50**	5	3.912023
10/21/2004	**120**	5	4.7874917
4/18/2005	**70**	5	4.2484952
10/13/2005	**56**	5	4.0253517
4/25/2006	**57**	10	4.0430513
10/20/2006	ND	5	0.9162907
4/25/2007	ND	10	1.6094379
10/31/2007	**17.6**	5	2.8678989
4/23/2008	**22.3**	5	3.1045867
10/20/2008	**18.4**	5	2.9123507
4/22/2009	NS	5	-
10/26/2009	**6**	5	1.7917595
4/22/2010	ND	5	0.9162907

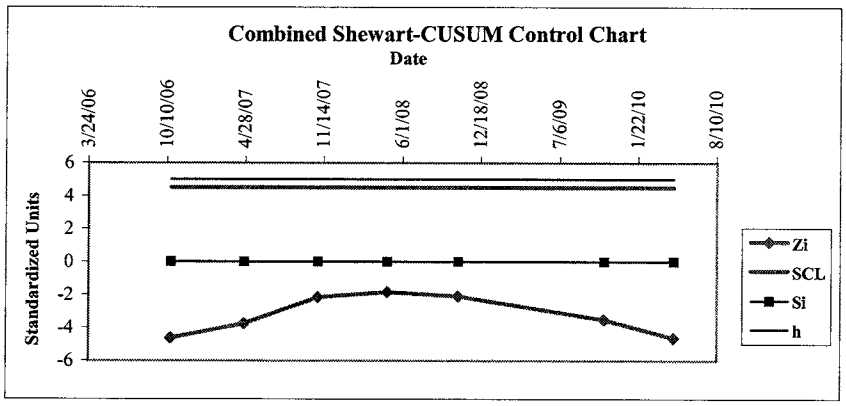
Compute the mean and standard deviation of the historical data:

4.5549099 = x_{mean} (Mean of N1-N8 historical data)
0.7832425 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	0.9162907	-4.6455844	0	5	4.5
4/25/2007	1.6094379	-3.7606131	0	5	4.5
10/31/2007	2.8678989	-2.1538808	0	5	4.5
4/23/2008	3.1045867	-1.8516912	0	5	4.5
10/20/2008	2.9123507	-2.0971273	0	5	4.5
10/26/2009	1.7917595	-3.5278352	0	5	4.5
4/22/2010	0.9162907	-4.6455844	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h. The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Copper**
NC MCL (µg/l): 1000
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	12	NS	NS	ND	ND	13	ND	27	ND	22	ND	NS	5
06/26/00	17	6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
07/26/00	12	6.1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	200
04/09/01	77	8.4	NS	ND	ND	5.4	ND	26	38	110	ND	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	200
04/15/02	69	ND	NS	ND	ND	ND	ND	13	68	120	4.7	NS	2
09/26/02	20	10	31	220	ND	ND	2.6	42	88	150	6.8	450	2
04/28/03	24	ND	2.6	40	ND	ND	ND	ND	28	94	ND	71	2
10/30/03	18	ND	NT	ND	2.3	2.6	ND	3	85	4.4	2.9	150	2
04/20/04	18	ND	2.8	12	5.3	2.3	4.3	13	7.4	100	2.3	89	2
10/21/04	11	ND	ND	2	ND	ND	ND	ND	ND	63	ND	140	2
04/18/05	29	ND	ND	240	ND	ND	ND	3.8	ND	120	ND	130	2
10/13/05	31	2.6	3.5	70	ND	ND	ND	ND	3	82	ND	96	2
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
10/20/06	26	ND	ND	9.6	ND	ND	ND	ND	20	ND	ND	25	5
04/25/07	15	ND	ND	ND	ND	330	ND	ND	ND	ND	ND	26	10
10/31/07	29.2	ND	ND	ND	ND	ND	ND	ND	6.3	40.3	ND	47.4	5
04/23/08	7.2	ND	ND	ND	ND	ND	ND	ND	7.2	ND	ND	17	5
10/20/08	26.5	ND	8.3	ND	ND	ND	ND	ND	ND	ND	ND	9.7	5
04/22/09	5.1	ND	22.6	6	ND	ND	ND	ND	8.8	ND	ND	NS	5
10/26/09	5.8	ND	ND	ND	6.4	ND	NS	NS	NS	ND	NS	7.1	5
04/22/10	9.9	ND	ND	ND	ND	5.9	NS	NS	ND	ND	NS	ND	5
N_i	21	20	15	19	19	19	17	17	18	19	17	15	
sum of rank values (R_i)	3465.5	1635.5	1447.5	2060.0	1377.0	1698.0	1169.0	1752.5	2297.0	2616.5	1324.5	2593.0	
avg rank value (Rbar)	165.0	81.8	96.5	108.4	72.5	89.4	68.8	103.1	127.6	137.7	77.9	172.9	

	Number of each rank value												Rank Value
rank value of NDs =	1	15	9	11	16	13	15	10	7	8	13	2	60.5
rank value of 2s =	0	0	0	1	0	0	0	0	0	0	0	0	121
rank value of 2.3s =	0	0	0	0	1	1	0	0	0	0	1	0	123
rank value of 2.6s =	0	1	1	0	0	1	1	0	0	0	0	0	126.5
rank value of 2.8s =	0	0	1	0	0	0	0	0	0	0	0	0	129
rank value of 2.9s =	0	0	0	0	0	0	0	0	0	0	1	0	130
rank value of 3s =	0	0	0	0	0	0	0	1	1	0	0	0	131.5
rank value of 3.5s =	0	0	1	0	0	0	0	0	0	0	0	0	133
rank value of 3.8s =	0	0	0	0	0	0	0	1	0	0	0	0	134
rank value of 4.3s =	0	0	0	0	0	0	1	0	0	0	0	0	135
rank value of 4.4s =	0	0	0	0	0	0	0	0	0	1	0	0	136
rank value of 4.7s =	0	0	0	0	0	0	0	0	0	0	1	0	137
rank value of 5.1s =	1	0	0	0	0	0	0	0	0	0	0	0	138
rank value of 5.3s =	0	0	0	0	1	0	0	0	0	0	0	0	139
rank value of 5.4s =	0	0	0	0	0	1	0	0	0	0	0	0	140
rank value of 5.8s =	1	0	0	0	0	0	0	0	0	0	0	0	141
rank value of 5.9s =	0	0	0	0	0	1	0	0	0	0	0	0	142
rank value of 6s =	0	1	0	1	0	0	0	0	0	0	0	0	143.5
rank value of 6.1s =	0	1	0	0	0	0	0	0	0	0	0	0	145
rank value of 6.3s =	0	0	0	0	0	0	0	0	1	0	0	0	146
rank value of 6.4s =	0	0	0	0	1	0	0	0	0	0	0	0	147
rank value of 6.8s =	0	0	0	0	0	0	0	0	0	0	1	0	148
rank value of 7.1s =	0	0	0	0	0	0	0	0	0	0	0	1	149
rank value of 7.2s =	1	0	0	0	0	0	0	0	1	0	0	0	150.5
rank value of 7.4s =	0	0	0	0	0	0	0	0	1	0	0	0	152
rank value of 8.3s =	0	0	1	0	0	0	0	0	0	0	0	0	153
rank value of 8.4s =	0	1	0	0	0	0	0	0	0	0	0	0	154
rank value of 8.8s =	0	0	0	0	0	0	0	0	1	0	0	0	155
rank value of 9.6s =	0	0	0	1	0	0	0	0	0	0	0	0	156

rank value of 9.7s =	0	0	0	0	0	0	0	0	0	0	0	1	157
rank value of 9.9s =	1	0	0	0	0	0	0	0	0	0	0	0	158
rank value of 10s =	0	1	0	0	0	0	0	0	0	0	0	0	159
rank value of 11s =	1	0	0	0	0	0	0	0	0	0	0	0	160
rank value of 12s =	2	0	0	1	0	0	0	0	0	0	0	0	162
rank value of 13s =	0	0	0	0	0	1	0	2	0	0	0	0	165
rank value of 15s =	1	0	0	0	0	0	0	0	0	0	0	0	167
rank value of 17s =	1	0	0	0	0	0	0	0	0	0	0	1	168.5
rank value of 18s =	2	0	0	0	0	0	0	0	0	0	0	0	170.5
rank value of 20s =	1	0	0	0	0	0	0	0	1	0	0	0	172.5
rank value of 22s =	0	0	0	0	0	0	0	0	0	1	0	0	174
rank value of 22.6s =	0	0	1	0	0	0	0	0	0	0	0	0	175
rank value of 24s =	1	0	0	0	0	0	0	0	0	0	0	0	176
rank value of 25s =	0	0	0	0	0	0	0	0	0	0	0	1	177
rank value of 26s =	1	0	0	0	0	0	0	1	0	0	0	1	179
rank value of 26.5s =	1	0	0	0	0	0	0	0	0	0	0	0	181
rank value of 27s =	0	0	0	0	0	0	0	1	0	0	0	0	182
rank value of 28s =	0	0	0	0	0	0	0	0	1	0	0	0	183
rank value of 29s =	1	0	0	0	0	0	0	0	0	0	0	0	184
rank value of 29.2s =	1	0	0	0	0	0	0	0	0	0	0	0	185
rank value of 31s =	1	0	1	0	0	0	0	0	0	0	0	0	186.5
rank value of 38s =	0	0	0	0	0	0	0	0	1	0	0	0	188
rank value of 40s =	0	0	0	1	0	0	0	0	0	0	0	0	189
rank value of 40.3s =	0	0	0	0	0	0	0	0	0	1	0	0	190
rank value of 42s =	0	0	0	0	0	0	0	1	0	0	0	0	191
rank value of 47.4s =	0	0	0	0	0	0	0	0	0	0	0	1	192
rank value of 63s =	0	0	0	0	0	0	0	0	0	1	0	0	193
rank value of 68s =	0	0	0	0	0	0	0	0	1	0	0	0	194
rank value of 69s =	1	0	0	0	0	0	0	0	0	0	0	0	195
rank value of 70s =	0	0	0	1	0	0	0	0	0	0	0	0	196
rank value of 71s =	0	0	0	0	0	0	0	0	0	0	0	1	197
rank value of 77s =	1	0	0	0	0	0	0	0	0	0	0	0	198
rank value of 82s =	0	0	0	0	0	0	0	0	0	1	0	0	199
rank value of 85s =	0	0	0	0	0	0	0	0	1	0	0	0	200
rank value of 88s =	0	0	0	0	0	0	0	0	1	0	0	0	201
rank value of 89s =	0	0	0	0	0	0	0	0	0	0	0	1	202
rank value of 94s =	0	0	0	0	0	0	0	0	0	1	0	0	203
rank value of 96s =	0	0	0	0	0	0	0	0	0	0	0	1	204
rank value of 100s =	0	0	0	0	0	0	0	0	0	1	0	0	205
rank value of 110s =	0	0	0	0	0	0	0	0	0	1	0	0	206
rank value of 120s =	0	0	0	0	0	0	0	0	0	2	0	0	207.5
rank value of 130s =	0	0	0	0	0	0	0	0	0	0	0	1	209
rank value of 140s =	0	0	0	0	0	0	0	0	0	0	0	1	210
rank value of 150s =	0	0	0	0	0	0	0	0	0	1	0	1	211.5
rank value of 220s =	0	0	0	1	0	0	0	0	0	0	0	0	213
rank value of 240s =	0	0	0	1	0	0	0	0	0	0	0	0	214
rank value of 330s =	0	0	0	0	0	1	0	0	0	0	0	0	215
rank value of 450s =	0	0	0	0	0	0	0	0	0	0	0	1	216
n =	**21**	**20**	**15**	**19**	**19**	**19**	**17**	**17**	**18**	**19**	**17**	**15**	

Sum of rank value calculations

60.5	907.5	544.5	665.5	968	786.5	907.5	605	423.5	484	786.5	121
0	0	0	121	0	0	0	0	0	0	0	0

0	0	0	0	123	123	0	0	0	0	123	0
0	126.5	126.5	0	0	126.5	126.5	0	0	0	0	0
0	0	129	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	130	0
0	0	0	0	0	0	0	131.5	131.5	0	0	0
0	0	133	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	134	0	0	0	0
0	0	0	0	0	0	135	0	0	0	0	0
0	0	0	0	0	0	0	0	0	136	0	0
0	0	0	0	0	0	0	0	0	0	137	0
138	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	139	0	0	0	0	0	0	0
0	0	0	0	0	140	0	0	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	142	0	0	0	0	0	0
0	143.5	0	143.5	0	0	0	0	0	0	0	0
0	145	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	146	0	0	0
0	0	0	0	147	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	148	0
0	0	0	0	0	0	0	0	0	0	0	149
150.5	0	0	0	0	0	0	0	150.5	0	0	0
0	0	0	0	0	0	0	0	152	0	0	0
0	0	153	0	0	0	0	0	0	0	0	0
0	154	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	155	0	0	0
0	0	0	156	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	157
158	0	0	0	0	0	0	0	0	0	0	0
0	159	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0
324	0	0	162	0	0	0	0	0	0	0	0
0	0	0	0	0	165	0	330	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0
168.5	0	0	0	0	0	0	0	0	0	0	168.5
341	0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	172.5	0	0	0
0	0	0	0	0	0	0	0	0	174	0	0
0	0	175	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	177
179	0	0	0	0	0	0	179	0	0	0	179
181	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	182	0	0	0	0
0	0	0	0	0	0	0	0	183	0	0	0
184	0	0	0	0	0	0	0	0	0	0	0
185	0	0	0	0	0	0	0	0	0	0	0
186.5	0	186.5	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	188	0	0	0
0	0	0	189	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	190	0	0
0	0	0	0	0	0	0	191	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	192
0	0	0	0	0	0	0	0	0	193	0	0
0	0	0	0	0	0	0	0	194	0	0	0
195	0	0	0	0	0	0	0	0	0	0	0
0	0	0	196	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	197
198	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	199	0	0
0	0	0	0	0	0	0	0	200	0	0	0
0	0	0	0	0	0	0	0	201	0	0	0
0	0	0	0	0	0	0	0	0	0	0	202
0	0	0	0	0	0	0	0	0	203	0	0
0	0	0	0	0	0	0	0	0	0	0	204
0	0	0	0	0	0	0	0	0	205	0	0
0	0	0	0	0	0	0	0	0	206	0	0
0	0	0	0	0	0	0	0	0	415	0	0
0	0	0	0	0	0	0	0	0	0	0	209
0	0	0	0	0	0	0	0	0	0	0	210
0	0	0	0	0	0	0	0	0	211.5	0	211.5
0	0	0	213	0	0	0	0	0	0	0	0

	0	0	0	214	0	0	0	0	0	0	0	0
	0	0	0	0	0	215	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	216
sum of rank values (R_i)	**3465.5**	**1635.5**	**1447.5**	**2060**	**1377**	**1698**	**1169**	**1752.5**	**2297**	**2616.5**	**1324.5**	**2593**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	765765.2	223347	99796	151748	80386	180662	293123	360320	103194	448243

$N_{i\,bg}$ = 56
N = 216
H = 41.93

Adjust H for ties:

T_i = 2E+06 sum of T1..T4

$H' = H/(1-(T_i/(N^3-N)))$
H' = 50.61
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is less than H' =50.61.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

Calculate the critical values to compare each compliance well to the background wells:

Critical Value (C_x) = $P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	**MW-15**
Rbar (well x) =	108.4	72.5	89.4	68.8	103.1	127.6	137.7	77.9	172.9
avg Rbar (background) =	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9	116.9
Dx =	-8.5	-44.5	-27.6	-48.2	-13.8	10.7	20.8	-39.0	55.9
Cx =	38.7	38.7	38.7	40.3	40.3	39.5	38.7	40.3	42.3
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	No

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total Copper averaged over these compliance wells are significantly greater than that of the background wells.
Shewart-CUSUM Control Charts should be performed for each failing well to check for statistical significance.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Copper**
NC MCL (µg/l):	1000
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**450**	**2**
4/28/2003	**71**	**2**
10/30/2003	**150**	**2**
4/20/2004	**89**	**2**
10/21/2004	**140**	**2**
4/18/2005	**130**	**2**
10/13/2005	**96**	**2**
4/25/2006	ND	**200**
10/20/2006	**25**	**5**
4/25/2007	**26**	**10**
10/31/2007	**47.4**	**5**
4/23/2008	**17**	**5**
10/20/2008	**9.7**	**5**
4/22/2009	NS	**5**
10/26/2009	**7.1**	**5**
4/22/2010	ND	**5**

If not detected (ND), use half of the detection limit.

450	X_i values =	46379205
71		-7660.907
150		208387.23
89		-5.029509
140		119725.96
130		60636.698
96		147.75622
100		800.90236
25		-283766.1
26		-271007.5
47.4		-81257.76
17		-400532.9
9.7		-531703.5
7.1		-584556.7
2.5		-686440.2

X_{bar} = 90.713333
SD = 111.55776
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = 2928131.6
γ_1 = 2.3390314

Since the Coefficient of Skewness of 2.34 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	6.1092476	X_i values = 12.136872
	4.2626799	0.092059
	5.0106353	1.7257879
	4.4886364	0.3109613
	4.9416424	1.4447934
	4.8675345	1.1788783
	4.5643482	0.4272991
	4.6051702	0.5006089
	3.2188758	-0.207761
	3.2580965	-0.169159
	3.8586222	0.000107
	2.8332133	-0.935253
	2.2721259	-3.645308
	1.9600948	-6.342441
	0.9162907	-24.25947

X_{bar} = 3.8111476
SD = 1.382676
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = -1.182801
γ_1 = 0.4962441

Since the Coefficient of Skewness of 0.50 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**450**	2	6.1092476
4/28/2003	**71**	2	4.2626799
10/30/2003	**150**	2	5.0106353
4/20/2004	**89**	2	4.4886364
10/21/2004	**140**	2	4.9416424
4/18/2005	**130**	2	4.8675345
10/13/2005	**96**	2	4.5643482
4/25/2006	ND	200	4.6051702
10/20/2006	**25**	5	3.2188758
4/25/2007	**26**	10	3.2580965
10/31/2007	**47.4**	5	3.8586222
4/23/2008	**17**	5	2.8332133
10/20/2008	**9.7**	5	2.2721259
4/22/2009	NS	5	-
10/26/2009	**7.1**	5	1.9600948
4/22/2010	ND	5	0.9162907

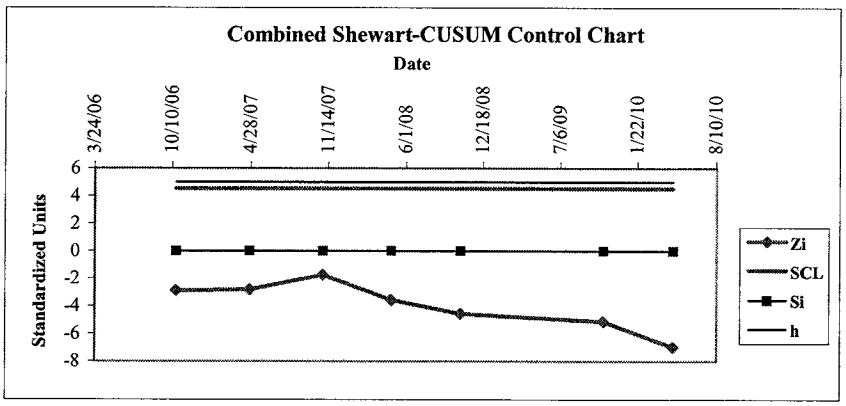
Compute the mean and standard deviation of the historical data:

4.8562368 = x_{mean} (Mean of N1-N8 historical data)
0.5653027 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	3.2188758	-2.8964323	0	5	4.5
4/25/2007	3.2580965	-2.8270522	0	5	4.5
10/31/2007	3.8586222	-1.764744	0	5	4.5
4/23/2008	2.8332133	-3.5786552	0	5	4.5
10/20/2008	2.2721259	-4.5711986	0	5	4.5
10/26/2009	1.9600948	-5.1231703	0	5	4.5
4/22/2010	0.9162907	-6.9696219	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h.
The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Lead**
NC MCL (µg/l): 15
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	**35**	NS	NS	ND	ND	ND	ND	**11**	ND	ND	ND	NS	**10**
06/26/00	ND	**10**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	ND	NS	NS	NS	**10**
04/09/01	ND	**59**	NS	ND	ND	ND	ND	ND	**18**	**2.5**	ND	NS	**10**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
04/15/02	**13**	ND	NS	ND	ND	ND	ND	ND	**13**	**29**	ND	NS	**10**
09/26/02	ND	**76**	**29**	ND	ND	ND	ND	ND	**150**	**20**	ND	**740**	**10**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	**25**	ND	ND	**300**	**10**
10/30/03	**8.7**	**12**	NT	ND	ND	ND	ND	ND	**39**	**7.4**	ND	**640**	**5**
04/20/04	**7.2**	**7**	**5.2**	**6.4**	**5.4**	ND	ND	ND	**12**	**39**	ND	**250**	**5**
10/21/04	**7.2**	**5.6**	**5.7**	ND	ND	ND	ND	ND	ND	**24**	ND	**430**	**5**
04/18/05	**13**	**8**	**5.2**	**73**	ND	ND	ND	ND	ND	**39**	ND	**380**	**5**
10/13/05	**14**	**6.9**	ND	**20**	ND	ND	ND	ND	ND	**29**	ND	**290**	**5**
04/25/06	**15**	ND	ND	ND	ND	ND	ND	ND	**53**	**19**	ND	**300**	**10**
10/20/06	**20**	ND	ND	ND	ND	ND	ND	ND	**32**	ND	ND	**89**	**5**
04/25/07	ND	ND	ND	ND	ND	**96**	ND	ND	ND	ND	ND	**69**	**10**
10/31/07	**17.5**	**8.1**	ND	ND	ND	ND	ND	ND	ND	**12.3**	ND	**123**	**5**
04/23/08	ND	ND	**8.4**	ND	ND	ND	ND	ND	**5.8**	ND	ND	**50.2**	**5**
10/20/08	ND	**13.5**	**7.6**	ND	ND	ND	ND	ND	ND	ND	ND	**25.9**	**5**
04/22/09	ND	**8.7**	**24.4**	ND	ND	ND	ND	ND	**9.8**	ND	ND	NS	**5**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	**24.7**	**5**
04/22/10	ND	**10.5**	ND	ND	ND	ND	NS	NS	ND	ND	NS	**9.2**	**5**
N_i	21	20	15	19	19	19	17	17	19	19	17	15	
sum of rank values (R_i)	2569.5	2644.0	1750.0	1728.0	1483.0	1539.0	1258.0	1355.0	2511.5	2485.0	1258.0	3072.0	
avg rank value (Rbar)	122.4	132.2	116.7	90.9	78.1	81.0	74.0	79.7	132.2	130.8	74.0	204.8	

	Number of each rank value												Rank Value
rank value of NDs =	11	8	8	16	18	18	17	16	9	9	17	0	74
rank value of 2.5s =	0	0	0	0	0	0	0	0	0	1	0	0	148
rank value of 5.2s =	0	0	2	0	0	0	0	0	0	0	0	0	149.5
rank value of 5.4s =	0	0	0	0	1	0	0	0	0	0	0	0	151
rank value of 5.6s =	0	1	0	0	0	0	0	0	0	0	0	0	152
rank value of 5.7s =	0	0	1	0	0	0	0	0	0	0	0	0	153
rank value of 5.8s =	0	0	0	0	0	0	0	0	1	0	0	0	154
rank value of 6.4s =	0	0	0	1	0	0	0	0	0	0	0	0	155
rank value of 6.9s =	0	1	0	0	0	0	0	0	0	0	0	0	156
rank value of 7s =	0	1	0	0	0	0	0	0	0	0	0	0	157
rank value of 7.2s =	2	0	0	0	0	0	0	0	0	0	0	0	158.5
rank value of 7.4s =	0	0	0	0	0	0	0	0	0	1	0	0	160
rank value of 7.6s =	0	0	1	0	0	0	0	0	0	0	0	0	161
rank value of 8s =	0	1	0	0	0	0	0	0	0	0	0	0	162
rank value of 8.1s =	0	1	0	0	0	0	0	0	0	0	0	0	163
rank value of 8.4s =	0	0	1	0	0	0	0	0	0	0	0	0	164
rank value of 8.7s =	1	1	0	0	0	0	0	0	0	0	0	0	165.5
rank value of 9.2s =	0	0	0	0	0	0	0	0	0	0	0	1	167
rank value of 9.8s =	0	0	0	0	0	0	0	0	1	0	0	0	168

rank value of 10s =	0	1	0	0	0	0	0	0	0	0	0	0	169
rank value of 10.5s =	0	1	0	0	0	0	0	0	0	0	0	0	170
rank value of 11s =	0	0	0	0	0	0	0	1	0	0	0	0	171
rank value of 12s =	0	1	0	0	0	0	0	0	1	0	0	0	172.5
rank value of 12.3s =	0	0	0	0	0	0	0	0	0	1	0	0	174
rank value of 13s =	2	0	0	0	0	0	0	0	1	0	0	0	176
rank value of 13.5s =	0	1	0	0	0	0	0	0	0	0	0	0	178
rank value of 14s =	1	0	0	0	0	0	0	0	0	0	0	0	179
rank value of 15s =	1	0	0	0	0	0	0	0	0	0	0	0	180
rank value of 17.5s =	1	0	0	0	0	0	0	0	0	0	0	0	181
rank value of 18s =	0	0	0	0	0	0	0	0	1	0	0	0	182
rank value of 19s =	0	0	0	0	0	0	0	0	0	1	0	0	183
rank value of 20s =	1	0	0	1	0	0	0	0	0	1	0	0	185
rank value of 24s =	0	0	0	0	0	0	0	0	0	1	0	0	187
rank value of 24.4s =	0	0	1	0	0	0	0	0	0	0	0	0	188
rank value of 24.7s =	0	0	0	0	0	0	0	0	0	0	0	1	189
rank value of 25s =	0	0	0	0	0	0	0	0	1	0	0	0	190
rank value of 25.9s =	0	0	0	0	0	0	0	0	0	0	0	1	191
rank value of 29s =	0	0	1	0	0	0	0	0	0	2	0	0	193
rank value of 32s =	0	0	0	0	0	0	0	0	1	0	0	0	195
rank value of 35s =	1	0	0	0	0	0	0	0	0	0	0	0	196
rank value of 39s =	0	0	0	0	0	0	0	0	1	2	0	0	198
rank value of 50.2s =	0	0	0	0	0	0	0	0	0	0	0	1	200
rank value of 53s =	0	0	0	0	0	0	0	0	1	0	0	0	201
rank value of 59s =	0	1	0	0	0	0	0	0	0	0	0	0	202
rank value of 69s =	0	0	0	0	0	0	0	0	0	0	0	1	203
rank value of 73s =	0	0	0	1	0	0	0	0	0	0	0	0	204
rank value of 76s =	0	1	0	0	0	0	0	0	0	0	0	0	205
rank value of 89s =	0	0	0	0	0	0	0	0	0	0	0	1	206
rank value of 96s =	0	0	0	0	0	1	0	0	0	0	0	0	207
rank value of 123s =	0	0	0	0	0	0	0	0	0	0	0	1	208
rank value of 150s =	0	0	0	0	0	0	0	0	1	0	0	0	209
rank value of 250s =	0	0	0	0	0	0	0	0	0	0	0	1	210
rank value of 290s =	0	0	0	0	0	0	0	0	0	0	0	1	211
rank value of 300s =	0	0	0	0	0	0	0	0	0	0	0	2	212.5
rank value of 380s =	0	0	0	0	0	0	0	0	0	0	0	1	214
rank value of 430s =	0	0	0	0	0	0	0	0	0	0	0	1	215
rank value of 640s =	0	0	0	0	0	0	0	0	0	0	0	1	216
rank value of 740s =	0	0	0	0	0	0	0	0	0	0	0	1	217
n =	**21**	**20**	**15**	**19**	**19**	**19**	**17**	**17**	**19**	**19**	**17**	**15**	

Sum of rank value calculations

814	592	592	1184	1332	1332	1258	1184	666	666	1258	0
0	0	0	0	0	0	0	0	0	148	0	0
0	0	299	0	0	0	0	0	0	0	0	0

0	0	0	0	151	0	0	0	0	0	0	0
0	152	0	0	0	0	0	0	0	0	0	0
0	0	153	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	154	0	0	0
0	0	0	155	0	0	0	0	0	0	0	0
0	156	0	0	0	0	0	0	0	0	0	0
0	157	0	0	0	0	0	0	0	0	0	0
317	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	160	0	0
0	0	161	0	0	0	0	0	0	0	0	0
0	162	0	0	0	0	0	0	0	0	0	0
0	163	0	0	0	0	0	0	0	0	0	0
0	0	164	0	0	0	0	0	0	0	0	0
165.5	165.5	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	167
0	0	0	0	0	0	0	0	168	0	0	0
0	169	0	0	0	0	0	0	0	0	0	0
0	170	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	171	0	0	0	0
0	172.5	0	0	0	0	0	0	172.5	0	0	0
0	0	0	0	0	0	0	0	0	174	0	0
352	0	0	0	0	0	0	0	176	0	0	0
0	178	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0
181	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	182	0	0	0
0	0	0	0	0	0	0	0	0	183	0	0
185	0	0	185	0	0	0	0	0	185	0	0
0	0	0	0	0	0	0	0	0	187	0	0
0	0	188	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	189
0	0	0	0	0	0	0	0	190	0	0	0
0	0	0	0	0	0	0	0	0	0	0	191
0	0	193	0	0	0	0	0	0	386	0	0
0	0	0	0	0	0	0	0	195	0	0	0
196	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	198	396	0	0
0	0	0	0	0	0	0	0	0	0	0	200
0	0	0	0	0	0	0	0	201	0	0	0
0	202	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	203
0	0	0	204	0	0	0	0	0	0	0	0
0	205	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	206
0	0	0	0	0	207	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	208
0	0	0	0	0	0	0	0	209	0	0	0
0	0	0	0	0	0	0	0	0	0	0	210
0	0	0	0	0	0	0	0	0	0	0	211
0	0	0	0	0	0	0	0	0	0	0	425
0	0	0	0	0	0	0	0	0	0	0	214
0	0	0	0	0	0	0	0	0	0	0	215
0	0	0	0	0	0	0	0	0	0	0	216
0	0	0	0	0	0	0	0	0	0	0	217

sum of rank values (R_i)	**2569.5**	**2644**	**1750**	**1728**	**1483**	**1539**	**1258**	**1355**	**2511.5**	**2485**	**1258**	**3072**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	865898.8	157157	115752	124659	93092	108001	331981	325012	93092	629146

$N_{i\,bg}$ = 56
N = 217
H = 67.38

Adjust H for ties:

T_i = 3E+06 sum of T1..T3

$H' = H/(1-(T_i/(N^3-N)))$
H' = 97.77
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is less than H' =97.77.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

Calculate the critical values to compare each compliance well to the background wells:

Critical Value (C_x) = $P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	**MW-15**
Rbar (well x) =	90.9	78.1	81.0	74.0	79.7	132.2	130.8	74.0	204.8
avg Rbar (background) =	124.3	124.3	124.3	124.3	124.3	124.3	124.3	124.3	124.3
Dx =	-33.4	-46.3	-43.3	-50.3	-44.6	7.8	6.4	-50.3	80.5
Cx =	38.8	38.8	38.8	40.5	40.5	38.8	38.8	40.5	42.5
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	No

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total Lead averaged over these compliance wells are significantly greater than that of the background wells.
Shewart-CUSUM Control Charts should be performed for each failing well to check for statistical significance.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Lead**
NC MCL (µg/l):	15
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**740**	**10**
4/28/2003	**300**	**10**
10/30/2003	**640**	**5**
4/20/2004	**250**	**5**
10/21/2004	**430**	**5**
4/18/2005	**380**	**5**
10/13/2005	**290**	**5**
4/25/2006	**300**	**10**
10/20/2006	**89**	**5**
4/25/2007	**69**	**10**
10/31/2007	**123**	**5**
4/23/2008	**50.2**	**5**
10/20/2008	**25.9**	**5**
4/22/2009	NS	**5**
10/26/2009	**24.7**	**5**
4/22/2010	**9.2**	**5**

If not detected (ND), use half of the detection limit.

740	X_i values =	119047082
300		140067.89
640		60205560
250		7.2263704
430		6021945.6
380		2296485
290		73735.76
300		140067.89
89		-4024737
69		-5741750
123		-1956252
50.2		-7746721
25.9		-10965709
24.7		-11144359
9.2		-13629083

X_{bar} =	248.06667
SD =	227.05262
N =	15
$1/N\Sigma_i(X_i-X_{bar})^3$ =	8847756.1
γ_1 =	0.8382979

Since the Coefficient of Skewness of 0.84 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the real detected values shown above.

ln =	6.6066502	X_i values = 4.7969271
	5.7037825	0.4812223
	6.4614682	3.6616869
	5.5214609	0.2174244
	6.0637852	1.4957822
	5.9401713	1.0612902
	5.6698809	0.4214297
	5.7037825	0.4812223
	4.4886364	-0.080347
	4.2341065	-0.322883
	4.8121844	-0.001258
	3.916015	-1.012441
	3.254243	-4.62326
	3.2068032	-5.029582
	2.2192035	-19.7036

X_{bar} = 4.9201449
SD = 1.32025
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = -1.210425
γ_1 = 0.5833301

Use the real values (not log-transformed) indicated in the previous section.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**740**	10	740
4/28/2003	**300**	10	300
10/30/2003	**640**	5	640
4/20/2004	**250**	5	250
10/21/2004	**430**	5	430
4/18/2005	**380**	5	380
10/13/2005	**290**	5	290
4/25/2006	**300**	10	300
10/20/2006	**89**	5	89
4/25/2007	**69**	10	69
10/31/2007	**123**	5	123
4/23/2008	**50.2**	5	50.2
10/20/2008	**25.9**	5	25.9
4/22/2009	NS	5	-
10/26/2009	**24.7**	5	24.7
4/22/2010	**9.2**	5	9.2

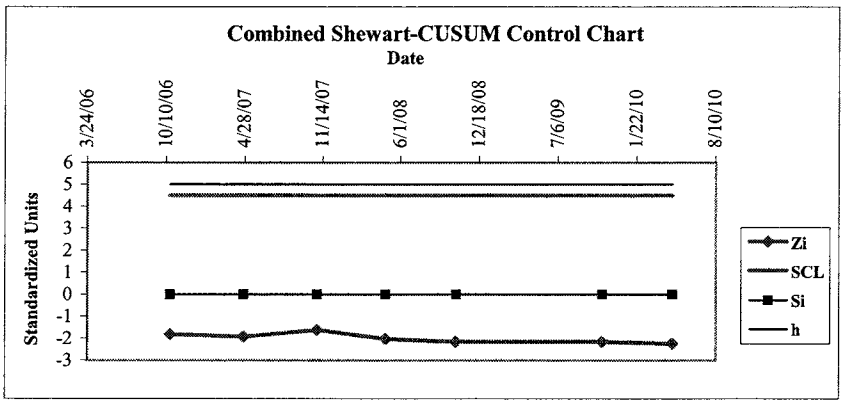
Compute the mean and standard deviation of the historical data:

416.25 = x_{mean} (Mean of N1-N8 historical data)
180.07439 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	89	-1.8173045	0	5	4.5
4/25/2007	69	-1.9283697	0	5	4.5
10/31/2007	123	-1.6284937	0	5	4.5
4/23/2008	50.2	-2.032771	0	5	4.5
10/20/2008	25.9	-2.1677152	0	5	4.5
10/26/2009	24.7	-2.1743792	0	5	4.5
4/22/2010	9.2	-2.2604547	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h.
The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Nickel**
NC MCL (µg/l): 100
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	15	NS	NS	17	12	8.3	ND	24	6.7	22	ND	NS	5
06/26/00	15	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
07/26/00	16	9.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	8.8	NT	NS	NS	NS	NT	NS	NS	NS	50
04/09/01	76	7.2	NS	9.6	5.3	ND	ND	18	28	6.1	7.3	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	50
04/15/02	74	ND	NS	ND	ND	ND	6	9	44	68	6.9	NS	5
09/26/02	16	6.8	31	400	ND	ND	ND	27	40	78	5.6	430	5
04/28/03	ND	ND	ND	90	ND	ND	ND	ND	ND	26	ND	70	5
10/30/03	19	ND	NT	6.9	6.9	ND	ND	ND	48	ND	7.7	190	5
04/20/04	20	ND	ND	30	7.3	ND	ND	12	5.3	49	12	110	5
10/21/04	12	ND	ND	13	ND	ND	ND	ND	ND	35	ND	160	5
04/18/05	29	9.6	17	460	ND	ND	5.5	5.4	ND	59	ND	170	5
10/13/05	29	ND	ND	160	6.8	ND	ND	6.1	ND	46	ND	100	5
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	88	50
10/20/06	22	ND	8.3	25	ND	ND	ND	ND	13	ND	ND	24	5
04/25/07	ND	ND	ND	ND	ND	330	ND	ND	ND	ND	ND	ND	50
10/31/07	24	ND	8	8.4	13.8	ND	5.8	9.8	ND	20.2	ND	36.2	5
04/23/08	7.3	ND	12.9	6.3	10.8	5.7	ND	11.3	5.3	ND	7.2	19	5
10/20/08	23	ND	21	11.1	10.7	7.5	ND	14	ND	ND	6.3	8.5	5
04/22/09	5.6	7.2	19.7	16.7	10.9	6	5.1	14	6	ND	ND	NS	5
10/26/09	6.7	ND	5.2	6	18	7.5	NS	NS	NS	6	NS	8.4	5
04/22/10	8.6	9.6	7.6	ND	6.2	ND	NS	NS	ND	ND	NS	ND	5
N_i	21	20	15	20	19	19	17	17	18	19	17	15	
sum of rank values (R_i)	3135.0	1488.5	1666.0	2843.0	1913.0	1459.5	1052.0	1971.5	1801.0	2347.5	1373.5	2602.5	
avg rank value (Rbar)	149.3	74.4	111.1	142.2	100.7	76.8	61.9	116.0	100.1	123.6	80.8	173.5	

	Number of each rank value												Rank Value
rank value of NDs =	3	14	6	4	8	13	13	6	9	8	10	2	48.5
rank value of 5.1s =	0	0	0	0	0	0	1	0	0	0	0	0	97
rank value of 5.2s =	0	0	1	0	0	0	0	0	0	0	0	0	98
rank value of 5.3s =	0	0	0	0	1	0	0	0	2	0	0	0	100
rank value of 5.4s =	0	0	0	0	0	0	0	1	0	0	0	0	102
rank value of 5.5s =	0	0	0	0	0	0	1	0	0	0	0	0	103
rank value of 5.6s =	1	0	0	0	0	0	0	0	0	0	1	0	104.5
rank value of 5.7s =	0	0	0	0	0	1	0	0	0	0	0	0	106
rank value of 5.8s =	0	0	0	0	0	0	1	0	0	0	0	0	107
rank value of 6s =	0	0	0	1	0	1	0	0	1	1	0	0	109.5
rank value of 6.1s =	0	0	0	0	0	0	0	1	0	1	0	0	112.5
rank value of 6.2s =	0	0	0	0	1	0	1	0	0	0	0	0	114.5
rank value of 6.3s =	0	0	0	1	0	0	0	0	0	0	1	0	116.5
rank value of 6.7s =	1	0	0	0	0	0	0	0	1	0	0	0	118.5
rank value of 6.8s =	0	1	0	0	1	0	0	0	0	0	0	0	120.5
rank value of 6.9s =	0	0	0	1	1	0	0	0	0	0	1	0	123
rank value of 7.2s =	0	2	0	0	0	0	0	0	0	0	1	0	126
rank value of 7.3s =	1	0	0	0	1	0	0	0	0	0	1	0	129
rank value of 7.5s =	0	0	0	0	0	2	0	0	0	0	0	0	131.5
rank value of 7.6s =	0	0	1	0	0	0	0	0	0	0	0	0	133
rank value of 7.7s =	0	0	0	0	0	0	0	0	0	0	1	0	134
rank value of 8s =	0	0	1	0	0	0	0	0	0	0	0	0	135
rank value of 8.3s =	0	0	1	0	0	1	0	0	0	0	0	0	136.5
rank value of 8.4s =	0	0	0	1	0	0	0	0	0	0	0	1	138.5
rank value of 8.5s =	0	0	0	0	0	0	0	0	0	0	0	1	140

rank value of 8.6s =	1	0	0	0	0	0	0	0	0	0	0	0	141
rank value of 8.8s =	0	0	0	1	0	0	0	0	0	0	0	0	142
rank value of 9.2s =	0	0	0	0	0	0	0	1	0	0	0	0	143
rank value of 9.6s =	0	2	0	1	0	0	0	0	0	0	0	0	145
rank value of 9.7s =	0	1	0	0	0	0	0	0	0	0	0	0	147
rank value of 9.8s =	0	0	0	0	0	0	0	1	0	0	0	0	148
rank value of 10.7s =	0	0	0	0	1	0	0	0	0	0	0	0	149
rank value of 10.8s =	0	0	0	0	1	0	0	0	0	0	0	0	150
rank value of 10.9s =	0	0	0	0	1	0	0	0	0	0	0	0	151
rank value of 11.1s =	0	0	0	1	0	0	0	0	0	0	0	0	152
rank value of 11.3s =	0	0	0	0	0	0	0	1	0	0	0	0	153
rank value of 12s =	1	0	0	0	1	0	0	1	0	0	1	0	155.5
rank value of 12.9s =	0	0	1	0	0	0	0	0	0	0	0	0	158
rank value of 13s =	0	0	0	1	0	0	0	0	1	0	0	0	159.5
rank value of 13.8s =	0	0	0	0	1	0	0	0	0	0	0	0	161
rank value of 14s =	0	0	0	0	0	0	0	2	0	0	0	0	162.5
rank value of 15s =	2	0	0	0	0	0	0	0	0	0	0	0	164.5
rank value of 16s =	2	0	0	0	0	0	0	0	0	0	0	0	166.5
rank value of 16.7s =	0	0	0	1	0	0	0	0	0	0	0	0	168
rank value of 17s =	0	0	1	1	0	0	0	0	0	0	0	0	169.5
rank value of 18s =	0	0	0	0	1	0	0	1	0	0	0	0	171.5
rank value of 19s =	1	0	0	0	0	0	0	0	0	0	0	1	173.5
rank value of 19.7s =	0	0	1	0	0	0	0	0	0	0	0	0	175
rank value of 20s =	1	0	0	0	0	0	0	0	0	0	0	0	176
rank value of 20.2s =	0	0	0	0	0	0	0	0	0	1	0	0	177
rank value of 21s =	0	0	1	0	0	0	0	0	0	0	0	0	178
rank value of 22s =	1	0	0	0	0	0	0	0	0	1	0	0	179.5
rank value of 23s =	1	0	0	0	0	0	0	0	0	0	0	0	181
rank value of 24s =	1	0	0	0	0	0	0	1	0	0	0	1	183
rank value of 25s =	0	0	0	1	0	0	0	0	0	0	0	0	185
rank value of 26s =	0	0	0	0	0	0	0	0	0	1	0	0	186
rank value of 27s =	0	0	0	0	0	0	0	1	0	0	0	0	187
rank value of 28s =	0	0	0	0	0	0	0	0	1	0	0	0	188
rank value of 29s =	2	0	0	0	0	0	0	0	0	0	0	0	189.5
rank value of 30s =	0	0	0	1	0	0	0	0	0	0	0	0	191
rank value of 31s =	0	0	1	0	0	0	0	0	0	0	0	0	192
rank value of 35s =	0	0	0	0	0	0	0	0	0	1	0	0	193
rank value of 36.2s =	0	0	0	0	0	0	0	0	0	0	0	1	194
rank value of 40s =	0	0	0	0	0	0	0	0	1	0	0	0	195
rank value of 44s =	0	0	0	0	0	0	0	0	1	0	0	0	196
rank value of 46s =	0	0	0	0	0	0	0	0	0	1	0	0	197
rank value of 48s =	0	0	0	0	0	0	0	0	1	0	0	0	198
rank value of 49s =	0	0	0	0	0	0	0	0	0	1	0	0	199
rank value of 59s =	0	0	0	0	0	0	0	0	0	1	0	0	200
rank value of 68s =	0	0	0	0	0	0	0	0	0	1	0	0	201
rank value of 70s =	0	0	0	0	0	0	0	0	0	0	0	1	202
rank value of 74s =	1	0	0	0	0	0	0	0	0	0	0	0	203
rank value of 76s =	1	0	0	0	0	0	0	0	0	0	0	0	204
rank value of 78s =	0	0	0	0	0	0	0	0	0	1	0	0	205
rank value of 88s =	0	0	0	0	0	0	0	0	0	0	0	1	206
rank value of 90s =	0	0	0	1	0	0	0	0	0	0	0	0	207
rank value of 100s =	0	0	0	0	0	0	0	0	0	0	0	1	208
rank value of 110s =	0	0	0	0	0	0	0	0	0	0	0	1	209
rank value of 160s =	0	0	0	1	0	0	0	0	0	0	0	1	210.5
rank value of 170s =	0	0	0	0	0	0	0	0	0	0	0	1	212
rank value of 190s =	0	0	0	0	0	0	0	0	0	0	0	1	213
rank value of 330s =	0	0	0	0	0	1	0	0	0	0	0	0	214
rank value of 400s =	0	0	0	1	0	0	0	0	0	0	0	0	215
rank value of 430s =	0	0	0	0	0	0	0	0	0	0	0	1	216
rank value of 460s =	0	0	0	1	0	0	0	0	0	0	0	0	217
n =	**21**	**20**	**15**	**20**	**19**	**19**	**17**	**17**	**18**	**19**	**17**	**15**	

Sum of rank value calculations

145.5	679	291	194	388	630.5	630.5	291	436.5	388	485	97
0	0	0	0	0	0	97	0	0	0	0	0
0	0	98	0	0	0	0	0	0	0	0	0

0	0	0	0	100	0	0	0	200	0	0	0
0	0	0	0	0	0	0	102	0	0	0	0
0	0	0	0	0	0	103	0	0	0	0	0
104.5	0	0	0	0	0	0	0	0	0	104.5	0
0	0	0	0	0	106	0	0	0	0	0	0
0	0	0	0	0	0	107	0	0	0	0	0
0	0	0	109.5	0	109.5	0	0	109.5	109.5	0	0
0	0	0	0	0	0	0	112.5	0	112.5	0	0
0	0	0	0	114.5	0	114.5	0	0	0	0	0
0	0	0	116.5	0	0	0	0	0	0	116.5	0
118.5	0	0	0	0	0	0	0	118.5	0	0	0
0	120.5	0	0	120.5	0	0	0	0	0	0	0
0	0	0	123	123	0	0	0	0	0	123	0
0	252	0	0	0	0	0	0	0	0	126	0
129	0	0	0	129	0	0	0	0	0	129	0
0	0	0	0	0	263	0	0	0	0	0	0
0	0	133	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	134	0
0	0	135	0	0	0	0	0	0	0	0	0
0	0	136.5	0	0	136.5	0	0	0	0	0	0
0	0	0	138.5	0	0	0	0	0	0	0	138.5
0	0	0	0	0	0	0	0	0	0	0	140
141	0	0	0	0	0	0	0	0	0	0	0
0	0	0	142	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	143	0	0	0	0
0	290	0	145	0	0	0	0	0	0	0	0
0	147	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	148	0	0	0	0
0	0	0	0	149	0	0	0	0	0	0	0
0	0	0	0	150	0	0	0	0	0	0	0
0	0	0	0	151	0	0	0	0	0	0	0
0	0	0	152	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	153	0	0	0	0
155.5	0	0	0	155.5	0	0	155.5	0	0	155.5	0
0	0	158	0	0	0	0	0	0	0	0	0
0	0	0	159.5	0	0	0	0	159.5	0	0	0
0	0	0	0	161	0	0	0	0	0	0	0
0	0	0	0	0	0	0	325	0	0	0	0
329	0	0	0	0	0	0	0	0	0	0	0
333	0	0	0	0	0	0	0	0	0	0	0
0	0	0	168	0	0	0	0	0	0	0	0
0	0	169.5	169.5	0	0	0	0	0	0	0	0
0	0	0	0	171.5	0	0	171.5	0	0	0	0
173.5	0	0	0	0	0	0	0	0	0	0	173.5
0	0	175	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	177	0	0
0	0	178	0	0	0	0	0	0	0	0	0
179.5	0	0	0	0	0	0	0	0	179.5	0	0
181	0	0	0	0	0	0	0	0	0	0	0
183	0	0	0	0	0	0	183	0	0	0	183
0	0	0	185	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	186	0	0
0	0	0	0	0	0	0	187	0	0	0	0
0	0	0	0	0	0	0	0	188	0	0	0
379	0	0	0	0	0	0	0	0	0	0	0
0	0	0	191	0	0	0	0	0	0	0	0
0	0	192	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	193	0	0
0	0	0	0	0	0	0	0	0	0	0	194
0	0	0	0	0	0	0	0	195	0	0	0
0	0	0	0	0	0	0	0	196	0	0	0
0	0	0	0	0	0	0	0	0	197	0	0
0	0	0	0	0	0	0	0	198	0	0	0
0	0	0	0	0	0	0	0	0	199	0	0
0	0	0	0	0	0	0	0	0	200	0	0
0	0	0	0	0	0	0	0	0	201	0	0
0	0	0	0	0	0	0	0	0	0	0	202
203	0	0	0	0	0	0	0	0	0	0	0

	204	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	205	0	0
	0	0	0	0	0	0	0	0	0	0	0	206
	0	0	0	207	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	208
	0	0	0	0	0	0	0	0	0	0	0	209
	0	0	0	210.5	0	0	0	0	0	0	0	210.5
	0	0	0	0	0	0	0	0	0	0	0	212
	0	0	0	0	0	0	0	0	0	0	0	213
	0	0	0	0	0	214	0	0	0	0	0	0
	0	0	0	215	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	216
	0	0	0	217	0	0	0	0	0	0	0	0
sum of rank values (R_i)	**3135**	**1488.5**	**1666**	**2843**	**1913**	**1459.5**	**1052**	**1971.5**	**1801**	**2347.5**	**1373.5**	**2602.5**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	706389.5	404132	192609	112113	65100	228636	180200	290040	110971	451534

$N_{i\,bg}$ = 56
N = 217
H = 41.49

Adjust H for ties:

T_i = 885018 sum of T1..T9

$H' = H/(1-(T_i/(N^3-N)))$
H' = 45.42
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is less than H' =45.42.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

Calculate the critical values to compare each compliance well to the background wells:

Critical Value (C_x) = $P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	**MW-15**
Rbar (well x) =	142.2	100.7	76.8	61.9	116.0	100.1	123.6	80.8	173.5
avg Rbar (background) =	112.3	112.3	112.3	112.3	112.3	112.3	112.3	112.3	112.3
Dx =	29.8	-11.6	-35.5	-50.4	3.7	-12.3	11.2	-31.5	61.2
Cx =	38.1	38.8	38.8	40.5	40.5	39.6	38.8	40.5	42.5
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	No

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total Nickel averaged over these compliance wells are significantly greater than that of the background wells.
Shewart-CUSUM Control Charts should be performed for each failing well to check for statistical significance.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Nickel**
NC MCL (µg/l):	100
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**430**	**5**
4/28/2003	**70**	**5**
10/30/2003	**190**	**5**
4/20/2004	**110**	**5**
10/21/2004	**160**	**5**
4/18/2005	**170**	**5**
10/13/2005	**100**	**5**
4/25/2006	**88**	**50**
10/20/2006	**24**	**5**
4/25/2007	ND	**50**
10/31/2007	**36.2**	**5**
4/23/2008	**19**	**5**
10/20/2008	**8.5**	**5**
4/22/2009	NS	**5**
10/26/2009	**8.4**	**5**
4/22/2010	ND	**5**

If not detected (ND), use half of the detection limit.

430	X_i values =	37224017
70		-17793.21
190		827759.69
110		2681.7567
160		260835.46
170		403474.2
100		59.01532
88		-532.7543
24		-374909.3
25		-359526.5
36.2		-214993.6
19		-458432.9
8.5		-672374.9
8.4		-674680
2.5		-820201.1

X_{bar} =	96.106667
SD =	111.71332
N =	15
$1/N\Sigma_i(X_i-X_{bar})^3$ =	2341692.2
γ_1=	1.8627722

Since the Coefficient of Skewness of 1.86 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	6.0637852	X_i values = 10.929714
	4.2484952	0.0659115
	5.2470241	2.7585613
	4.7004804	0.6270645
	5.0751738	1.8636905
	5.1357984	2.1529174
	4.6051702	0.440048
	4.4773368	0.2533775
	3.1780538	-0.296072
	3.2188758	-0.244934
	3.5890591	-0.016678
	2.944439	-0.729275
	2.1400662	-4.951995
	2.1282317	-5.05586
	0.9162907	-25.109

X_{bar} = 3.844552
SD = 1.4163667
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = -1.154169
γ_1= 0.450492

Since the Coefficient of Skewness of 0.45 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**430**	5	6.0637852
4/28/2003	**70**	5	4.2484952
10/30/2003	**190**	5	5.2470241
4/20/2004	**110**	5	4.7004804
10/21/2004	**160**	5	5.0751738
4/18/2005	**170**	5	5.1357984
10/13/2005	**100**	5	4.6051702
4/25/2006	**88**	50	4.4773368
10/20/2006	**24**	5	3.1780538
4/25/2007	ND	50	3.2188758
10/31/2007	**36.2**	5	3.5890591
4/23/2008	**19**	5	2.944439
10/20/2008	**8.5**	5	2.1400662
4/22/2009	NS	5	-
10/26/2009	**8.4**	5	2.1282317
4/22/2010	ND	5	0.9162907

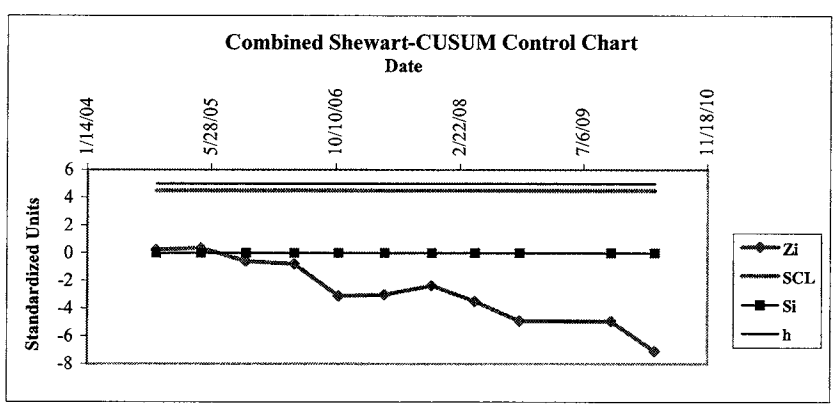
Compute the mean and standard deviation of the historical data:

4.944158 = x_{mean} (Mean of N1-N8 historical data)
0.5701309 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/21/2004	5.0751738	0.22979952	0	5	4.5
4/18/2005	5.1357984	0.33613409	0	5	4.5
10/13/2005	4.6051702	-0.594579	0	5	4.5
4/25/2006	4.4773368	-0.8187966	0	5	4.5
10/20/2006	3.1780538	-3.0977172	0	5	4.5
4/25/2007	3.2188758	-3.0261161	0	5	4.5
10/31/2007	3.5890591	-2.3768208	0	5	4.5
4/23/2008	2.944439	-3.5074738	0	5	4.5
10/20/2008	2.1400662	-4.9183303	0	5	4.5
10/26/2009	2.1282317	-4.9390877	0	5	4.5
4/22/2010	0.9162907	-7.0648119	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h. The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Selenium**
MCL (µg/l): 50
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	**20**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	**20**
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	**20**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
04/15/02	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	**20**
09/26/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**20**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**20**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/20/04	ND	ND	ND	ND	ND	**5**	ND	ND	ND	ND	ND	ND	**5**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/13/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**20**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/07	**12**	ND	ND	ND	ND	**460**	ND	ND	ND	ND	ND	**18**	**10**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**10**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	**10**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	**10**

1) If not detected (ND), use half of the detection limit.

04/24/00	10	-	-	10	10	10	10	10	10	10	10	-
06/26/00	10	10	-	-	-	-	-	-	-	-	-	-
07/26/00	10	10	-	-	-	-	-	-	-	-	-	-
09/18/00	-	-	-	-	-	-	-	-	-	-	-	-
04/09/01	10	10	-	10	10	10	10	10	10	10	10	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	10	10	-	10	10	10	10	10	10	10	10	-
09/26/02	10	10	10	10	10	10	10	10	10	10	10	10
04/28/03	10	10	10	10	10	10	10	10	10	10	10	10
10/30/03	2.5	2.5	-	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/20/04	2.5	2.5	2.5	2.5	2.5	5	2.5	2.5	2.5	2.5	2.5	2.5
10/21/04	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/18/05	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
10/13/05	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/25/06	10	10	10	10	10	10	10	10	10	10	10	10
10/20/06	5	5	5	5	5	5	5	5	5	5	5	5
04/25/07	12	5	5	5	5	460	5	5	5	5	5	18
10/31/07	5	5	5	5	5	5	5	5	5	5	5	5
04/23/08	5	5	5	5	5	5	5	5	5	5	5	5
10/20/08	5	5	5	5	5	5	5	5	5	5	5	5
04/22/09	5	5	5	5	5	5	5	5	5	5	5	-
10/26/09	5	5	5	5	5	5	-	-	-	5	-	5
04/22/10				5	5	5	-	-	5	5	-	5

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 20.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 53$
$T_{n1} = 327$

3) Using Gibbons' formula, calculate the upper Poisson Prediction limit T^*_k:

$$T^*_k = cT_{n1} + ct^2/2 + ct[T_{n1}(1+1/c) + t^2/4]^{-0.5}$$

where $c = k/n$
and where k = the number of future predicted measurements (one per well during the current sampling event)
and where t = the upper 99th percentile of the t-distribution with (n-1) degrees of freedom (Table 6 of the IFG).

$k = 6$
$n = 53$
$T_{n1} = 327$
$t[52,.01] = 2.4032$
$c = 0.1132$
$T_{n2} = 30$
$T^*_k = 52.8$

4) Compare the *Poisson Prediction Limit* (T^*_k) to the *Sum of the Concentrations Detected* (T_{n2}) in the wells during the most recent sampling event.
Since the Poisson Prediction Limit was not exceeded, there is no evidence of contamination.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Silver**
MCL (µg/l): 17.5
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	**3.7**	NS	NS	ND	ND	ND	**6.9**	ND	ND	ND	ND	NS	**2**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	**10**
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	**2**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
04/15/02	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	**2**
09/26/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
10/13/05	**2.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/25/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**5**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	**5**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	**5**

1) If not detected (ND), use half of the detection limit.

04/24/00	3.7	-	-	1	1	1	6.9	1	1	1	1	-
06/26/00	1	1	-	-	-	-	-	-	-	-	-	-
07/26/00	1	1	-	-	-	-	-	-	-	-	-	-
09/18/00	-	-	-	-	-	-	-	-	-	-	-	-
04/09/01	1	1	-	1	1	1	1	1	1	1	1	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	1	1	-	1	1	1	1	1	1	1	1	-
09/26/02	1	1	1	1	1	1	1	1	1	1	1	1
04/28/03	1	1	1	1	1	1	1	1	1	1	1	1
10/30/03	1	1	-	1	1	1	1	1	1	1	1	1
04/20/04	1	1	1	1	1	1	1	1	1	1	1	1
10/21/04	1	1	1	1	1	1	1	1	1	1	1	1
04/18/05	1	1	1	1	1	1	1	1	1	1	1	1
10/13/05	2.9	1	1	1	1	1	1	1	1	1	1	1
04/25/06	5	5	5	5	5	5	5	5	5	5	5	5
10/20/06	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/25/07	5	5	5	5	5	5	5	5	5	5	5	5
10/31/07	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/23/08	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
10/20/08	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/22/09	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-
10/26/09	2.5	2.5	2.5	2.5	2.5	2.5	-	-	-	2.5	-	2.5
04/22/10				2.5	2.5	2.5	-	-	2.5	2.5	-	2.5

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 20.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 53$
$T_{n1} = 108.6$

3) Using Gibbons' formula, calculate the upper Poisson Prediction limit T^*_k:

$$T^*_k = cT_{n1} + ct^2/2 + ct[T_{n1}(1+1/c) + t^2/4]^{-0.5}$$

where $c = k/n$
and where k = the number of future predicted measurements (one per well during the current sampling event)
and where t = the upper 99th percentile of the t-distribution with (n-1) degrees of freedom (Table 6 of the IFG).

$k = 6$
$n = 53$
$T_{n1} = 108.6$
$t[52,.01] = 2.4032$
$c = 0.1132$
$T_{n2} = 15$
$T^*_k = 21.5$

4) Compare the *Poisson Prediction Limit* (T^*_k) to the *Sum of the Concentrations Detected* (T_{n2}) in the wells during the most recent sampling event.
Since the Poisson Prediction Limit was not exceeded, there is no evidence of contamination.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Thallium**
MCL (µg/l): Not Established
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	**2**	NS	NS	ND	**3**	**2**	**4**	ND	**2**	**5**	ND	NS	**2**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	**20**
04/09/01	**40**	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	**2**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
04/15/02	**40**	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	NS	**2**
09/26/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**65**	**2**
04/28/03	ND	ND	ND	**1.6**	ND	ND	ND	ND	**1.4**	ND	**1**	**15**	**1**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/13/05	**22**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/07	ND	ND	ND	ND	ND	**35**	ND	ND	ND	ND	ND	ND	**5.5**
10/31/07	**11.6**	ND	ND	ND	ND	ND	ND	ND	ND	**9.5**	ND	ND	**5.5**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.5**
10/20/08	**7.2**	ND	ND	ND	ND	ND	ND	**6.1**	ND	ND	ND	ND	**5.4**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**5.4**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	**5.4**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	**5.4**

1) If not detected (ND), use half of the detection limit.

04/24/00	2	-	-	1	3	2	4	1	2	5	1	-
06/26/00	1	1	-	-	-	-	-	-	-	-	-	-
07/26/00	1	1	-	-	-	-	-	-	-	-	-	-
09/18/00	-	-	-	-	-	-	-	-	-	-	-	-
04/09/01	40	1	-	1	1	1	1	1	1	1	1	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	40	1	-	1	1	1	1	1	1	1	1	-
09/26/02	1	1	1	1	1	1	1	1	1	1	1	65
04/28/03	0.5	0.5	0.5	1.6	0.5	0.5	0.5	0.5	1.4	0.5	1	15
10/30/03	5	5	-	5	5	5	5	5	5	5	5	5
04/20/04	5	5	5	5	5	5	5	5	5	5	5	5
10/21/04	5	5	5	5	5	5	5	5	5	5	5	5
04/18/05	5	5	5	5	5	5	5	5	5	5	5	5
10/13/05	22	5	5	5	5	5	5	5	5	5	5	5
04/25/06	5	5	5	5	5	5	5	5	5	5	5	5
10/20/06	5	5	5	5	5	5	5	5	5	5	5	5
04/25/07	2.75	2.75	2.75	2.75	2.75	35	2.75	2.75	2.75	2.75	2.75	2.75
10/31/07	11.6	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	9.5	2.75	2.75
04/23/08	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
10/20/08	7.2	2.7	2.7	2.7	2.7	2.7	2.7	6.1	2.7	2.7	2.7	2.7
04/22/09	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-
10/26/09	2.7	2.7	2.7	2.7	2.7	2.7	-	-	-	2.7	-	2.7
04/22/10				2.7	2.7	2.7	-	-	2.7	2.7	-	2.7

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 20.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 53$
$T_{n1} = 271.9$

3) Using Gibbons' formula, calculate the upper Poisson Prediction limit T^*_k:

$$T^*_k = cT_{n1} + ct^2/2 + ct[T_{n1}(1+1/c) + t^2/4]^{-0.5}$$

where $c = k/n$
and where k = the number of future predicted measurements (one per well during the current sampling event)
and where t = the upper 99th percentile of the t-distribution with (n-1) degrees of freedom (Table 6 of the IFG).

$k = 6$
$n = 53$
$T_{n1} = 271.9$
$t[52,.01] = 2.4032$
$c = 0.1132$
$T_{n2} = 16.2$
$T^*_k = 45.2$

4) Compare the *Poisson Prediction Limit* (T^*_k) to the *Sum of the Concentrations Detected* (T_{n2}) in the wells during the most recent sampling event.
Since the Poisson Prediction Limit was not exceeded, there is no evidence of contamination.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Vanadium**
NC MCL (µg/l): Not Established
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	17	NS	NS	19	32	21	ND	29	8.9	78	ND	NS	5
06/26/00	40	6.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
07/26/00	45	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	40
04/09/01	250	1.4	NS	13	19	9.3	ND	24	41	230	8	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	40
04/15/02	240	ND	NS	ND	ND	11	21	14	69	260	ND	NS	5
09/26/02	58	16	44	640	ND	ND	ND	42	50	310	8.8	1000	5
04/28/03	89	ND	9.6	170	6.8	6.8	ND	ND	37	230	ND	130	5
10/30/03	54	ND	NT	6.6	16	ND	ND	ND	92	14	ND	200	5
04/20/04	55	ND	ND	45	25	ND	ND	13	5.1	240	ND	88	5
10/21/04	41	ND	ND	18	ND	ND	ND	ND	ND	160	ND	210	5
04/18/05	85	ND	ND	680	5.4	ND	ND	ND	ND	240	ND	110	5
10/13/05	82	ND	ND	210	8.9	ND	ND	ND	ND	170	ND	82	5
04/25/06	110	ND	ND	ND	ND	ND	ND	ND	ND	120	ND	85	40
10/20/06	79	ND	ND	28	ND	ND	ND	ND	23	ND	ND	30	5
04/25/07	43	ND	ND	ND	ND	300	ND	ND	ND	ND	ND	26	25
10/31/07	89	ND	8.8	14.7	20	ND	ND	ND	8.6	103	ND	48.2	5
04/23/08	26.1	ND	11.4	9.7	10.1	ND	ND	5.1	9.7	10	ND	23.1	5
10/20/08	79	ND	15.1	15.8	ND	ND	ND	ND	5.4	ND	ND	14.8	5
04/22/09	16	ND	32.7	19.8	7.7	ND	ND	ND	13.3	ND	ND	NS	5
10/26/09	17.9	ND	ND	5.3	33.6	ND	NS	NS	NS	12.2	NS	11.9	5
04/22/10	27.9	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	5
N_i	21	20	15	19	19	19	17	17	18	19	17	15	
sum of rank values (R_i)	3726.5	1273.5	1339.0	2599.0	1959.0	1484.0	1009.5	1461.0	2091.5	2890.5	1041.0	2561.5	
avg rank value (Rbar)	177.5	63.7	89.3	136.8	103.1	78.1	59.4	85.9	116.2	152.1	61.2	170.8	

	Number of each rank value												Rank Value
rank value of NDs =	0	17	9	4	8	14	16	11	6	5	15	1	53.5
rank value of 1.4s =	0	1	0	0	0	0	0	0	0	0	0	0	107
rank value of 5.1s =	0	0	0	0	0	0	0	1	1	0	0	0	108.5
rank value of 5.3s =	0	0	0	1	0	0	0	0	0	0	0	0	110
rank value of 5.4s =	0	0	0	0	1	0	0	0	1	0	0	0	111.5
rank value of 6.3s =	0	1	0	0	0	0	0	0	0	0	0	0	113
rank value of 6.6s =	0	0	0	1	0	0	0	0	0	0	0	0	114
rank value of 6.8s =	0	0	0	0	1	1	0	0	0	0	0	0	115.5
rank value of 7.7s =	0	0	0	0	1	0	0	0	0	0	0	0	117
rank value of 8s =	0	0	0	0	0	0	0	0	0	0	1	0	118
rank value of 8.6s =	0	0	0	0	0	0	0	0	1	0	0	0	119
rank value of 8.8s =	0	0	1	0	0	0	0	0	0	0	1	0	120.5
rank value of 8.9s =	0	0	0	0	1	0	0	0	1	0	0	0	122.5
rank value of 9.3s =	0	0	0	0	0	1	0	0	0	0	0	0	124
rank value of 9.6s =	0	0	1	0	0	0	0	0	0	0	0	0	125
rank value of 9.7s =	0	0	0	1	0	0	0	0	1	0	0	0	126.5
rank value of 10s =	0	0	0	0	0	0	0	0	0	1	0	0	128
rank value of 10.1s =	0	0	0	0	1	0	0	0	0	0	0	0	129
rank value of 11s =	0	0	0	0	0	1	0	0	0	0	0	0	130
rank value of 11.4s =	0	0	1	0	0	0	0	0	0	0	0	0	131
rank value of 11.9s =	0	0	0	0	0	0	0	0	0	0	0	1	132
rank value of 12.2s =	0	0	0	0	0	0	0	0	0	1	0	0	133
rank value of 13s =	0	0	0	1	0	0	0	1	0	0	0	0	134.5
rank value of 13.3s =	0	0	0	0	0	0	0	0	1	0	0	0	136
rank value of 14s =	0	0	0	0	0	0	0	1	0	1	0	0	137.5
rank value of 14.7s =	0	0	0	1	0	0	0	0	0	0	0	0	139

rank value of 14.8s =	0	0	0	0	0	0	0	0	0	0	0	1	140
rank value of 15.1s =	0	0	1	0	0	0	0	0	0	0	0	0	141
rank value of 15.8s =	0	0	0	1	0	0	0	0	0	0	0	0	142
rank value of 16s =	1	1	0	0	1	0	0	0	0	0	0	0	144
rank value of 17s =	1	0	0	0	0	0	0	0	0	0	0	0	146
rank value of 17.9s =	1	0	0	0	0	0	0	0	0	0	0	0	147
rank value of 18s =	0	0	0	1	0	0	0	0	0	0	0	0	148
rank value of 19s =	0	0	0	1	1	0	0	0	0	0	0	0	149.5
rank value of 19.8s =	0	0	0	1	0	0	0	0	0	0	0	0	151
rank value of 20s =	0	0	0	0	1	0	0	0	0	0	0	0	152
rank value of 21s =	0	0	0	0	0	1	1	0	0	0	0	0	153.5
rank value of 23s =	0	0	0	0	0	0	0	0	1	0	0	0	155
rank value of 23.1s =	0	0	0	0	0	0	0	0	0	0	0	1	156
rank value of 24s =	0	0	0	0	0	0	0	1	0	0	0	0	157
rank value of 25s =	0	0	0	0	1	0	0	0	0	0	0	0	158
rank value of 26s =	0	0	0	0	0	0	0	0	0	0	0	1	159
rank value of 26.1s =	1	0	0	0	0	0	0	0	0	0	0	0	160
rank value of 27.9s =	1	0	0	0	0	0	0	0	0	0	0	0	161
rank value of 28s =	0	0	0	1	0	0	0	0	0	0	0	0	162
rank value of 29s =	0	0	0	0	0	0	0	1	0	0	0	0	163
rank value of 30s =	0	0	0	0	0	0	0	0	0	0	0	1	164
rank value of 32s =	0	0	0	0	1	0	0	0	0	0	0	0	165
rank value of 32.7s =	0	0	1	0	0	0	0	0	0	0	0	0	166
rank value of 33.6s =	0	0	0	0	1	0	0	0	0	0	0	0	167
rank value of 37s =	0	0	0	0	0	0	0	0	1	0	0	0	168
rank value of 40s =	1	0	0	0	0	0	0	0	0	0	0	0	169
rank value of 41s =	1	0	0	0	0	0	0	0	1	0	0	0	170.5
rank value of 42s =	0	0	0	0	0	0	0	1	0	0	0	0	172
rank value of 43s =	1	0	0	0	0	0	0	0	0	0	0	0	173
rank value of 44s =	0	0	1	0	0	0	0	0	0	0	0	0	174
rank value of 45s =	1	0	0	1	0	0	0	0	0	0	0	0	175.5
rank value of 48.2s =	0	0	0	0	0	0	0	0	0	0	0	1	177
rank value of 50s =	0	0	0	0	0	0	0	0	1	0	0	0	178
rank value of 54s =	1	0	0	0	0	0	0	0	0	0	0	0	179
rank value of 55s =	1	0	0	0	0	0	0	0	0	0	0	0	180
rank value of 58s =	1	0	0	0	0	0	0	0	0	0	0	0	181
rank value of 69s =	0	0	0	0	0	0	0	0	1	0	0	0	182
rank value of 78s =	0	0	0	0	0	0	0	0	0	1	0	0	183
rank value of 79s =	2	0	0	0	0	0	0	0	0	0	0	0	184.5
rank value of 82s =	1	0	0	0	0	0	0	0	0	0	0	1	186.5
rank value of 85s =	1	0	0	0	0	0	0	0	0	0	0	1	188.5
rank value of 88s =	0	0	0	0	0	0	0	0	0	0	0	1	190
rank value of 89s =	2	0	0	0	0	0	0	0	0	0	0	0	191.5
rank value of 92s =	0	0	0	0	0	0	0	0	1	0	0	0	193
rank value of 103s =	0	0	0	0	0	0	0	0	0	1	0	0	194
rank value of 110s =	1	0	0	0	0	0	0	0	0	0	0	1	195.5
rank value of 120s =	0	0	0	0	0	0	0	0	0	1	0	0	197
rank value of 130s =	0	0	0	0	0	0	0	0	0	0	0	1	198
rank value of 160s =	0	0	0	0	0	0	0	0	0	1	0	0	199
rank value of 170s =	0	0	0	1	0	0	0	0	0	1	0	0	200.5
rank value of 200s =	0	0	0	0	0	0	0	0	0	0	0	1	202
rank value of 210s =	0	0	0	1	0	0	0	0	0	0	0	1	203.5
rank value of 230s =	0	0	0	0	0	0	0	0	0	2	0	0	205.5
rank value of 240s =	1	0	0	0	0	0	0	0	0	2	0	0	208
rank value of 250s =	1	0	0	0	0	0	0	0	0	0	0	0	210
rank value of 260s =	0	0	0	0	0	0	0	0	0	1	0	0	211
rank value of 300s =	0	0	0	0	0	1	0	0	0	0	0	0	212
rank value of 310s =	0	0	0	0	0	0	0	0	0	1	0	0	213
rank value of 640s =	0	0	0	1	0	0	0	0	0	0	0	0	214
rank value of 680s =	0	0	0	1	0	0	0	0	0	0	0	0	215
rank value of 1000s =	0	0	0	0	0	0	0	0	0	0	0	1	216
n =	**21**	**20**	**15**	**19**	**19**	**19**	**17**	**17**	**18**	**19**	**17**	**15**	

Sum of rank value calculations

0	909.5	481.5	214	428	749	856	588.5	321	267.5	802.5	53.5
0	107	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	108.5	108.5	0	0	0

0	0	0	110	0	0	0	0	0	0	0	0
0	0	0	0	111.5	0	0	0	111.5	0	0	0
0	113	0	0	0	0	0	0	0	0	0	0
0	0	0	114	0	0	0	0	0	0	0	0
0	0	0	0	115.5	115.5	0	0	0	0	0	0
0	0	0	0	117	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	118	0
0	0	0	0	0	0	0	0	119	0	0	0
0	0	120.5	0	0	0	0	0	0	0	120.5	0
0	0	0	0	122.5	0	0	0	122.5	0	0	0
0	0	0	0	0	124	0	0	0	0	0	0
0	0	125	0	0	0	0	0	0	0	0	0
0	0	0	126.5	0	0	0	0	126.5	0	0	0
0	0	0	0	0	0	0	0	0	128	0	0
0	0	0	0	129	0	0	0	0	0	0	0
0	0	0	0	0	130	0	0	0	0	0	0
0	0	131	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	132
0	0	0	0	0	0	0	0	0	133	0	0
0	0	0	134.5	0	0	0	134.5	0	0	0	0
0	0	0	0	0	0	0	0	136	0	0	0
0	0	0	0	0	0	0	137.5	0	137.5	0	0
0	0	0	139	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	140
0	0	141	0	0	0	0	0	0	0	0	0
0	0	0	142	0	0	0	0	0	0	0	0
144	144	0	0	144	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0
0	0	0	148	0	0	0	0	0	0	0	0
0	0	0	149.5	149.5	0	0	0	0	0	0	0
0	0	0	151	0	0	0	0	0	0	0	0
0	0	0	0	152	0	0	0	0	0	0	0
0	0	0	0	0	153.5	153.5	0	0	0	0	0
0	0	0	0	0	0	0	0	155	0	0	0
0	0	0	0	0	0	0	0	0	0	0	156
0	0	0	0	0	0	0	157	0	0	0	0
0	0	0	0	158	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	159
160	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0	0	0	0	0
0	0	0	162	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	163	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	164
0	0	0	0	165	0	0	0	0	0	0	0
0	0	166	0	0	0	0	0	0	0	0	0
0	0	0	0	167	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	168	0	0	0
169	0	0	0	0	0	0	0	0	0	0	0
170.5	0	0	0	0	0	0	0	170.5	0	0	0
0	0	0	0	0	0	0	172	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0	0
0	0	174	0	0	0	0	0	0	0	0	0
175.5	0	0	175.5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	177
0	0	0	0	0	0	0	0	178	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0
181	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	182	0	0	0
0	0	0	0	0	0	0	0	0	183	0	0
369	0	0	0	0	0	0	0	0	0	0	0
186.5	0	0	0	0	0	0	0	0	0	0	186.5
188.5	0	0	0	0	0	0	0	0	0	0	188.5
0	0	0	0	0	0	0	0	0	0	0	190
383	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	193	0	0	0
0	0	0	0	0	0	0	0	0	194	0	0
195.5	0	0	0	0	0	0	0	0	0	0	195.5
0	0	0	0	0	0	0	0	0	197	0	0

	0	0	0	0	0	0	0	0	0	0	0	198
	0	0	0	0	0	0	0	0	0	199	0	0
	0	0	0	200.5	0	0	0	0	0	200.5	0	0
	0	0	0	0	0	0	0	0	0	0	0	202
	0	0	0	203.5	0	0	0	0	0	0	0	203.5
	0	0	0	0	0	0	0	0	0	411	0	0
	208	0	0	0	0	0	0	0	0	416	0	0
	210	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	211	0	0
	0	0	0	0	0	212	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	213	0	0
	0	0	0	214	0	0	0	0	0	0	0	0
	0	0	0	215	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	216
sum of rank values (R_i)	**3726.5**	**1273.5**	**1339**	**2599**	**1959**	**1484**	**1009.5**	**1461**	**2091.5**	**2890.5**	**1041**	**2561.5**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	717552.2	355516	201983	115908	59946	125560	243021	439736	63746	437419

$N_{i\,bg}$ = 56
N = 216
H = 55.70

Adjust H for ties:

T_i = 1E+06 sum of T1..T6

$H' = H/(1-(T_i/(N^3-N)))$
H' = 63.17
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is less than H' =63.17.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

Calculate the critical values to compare each compliance well to the background wells:

Critical Value (C_x) = $P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	**MW-8**	MW-9	**MW-15**
Rbar (well x) =	136.8	103.1	78.1	59.4	85.9	116.2	152.1	61.2	170.8
avg Rbar (background) =	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2
Dx =	23.6	-10.1	-35.1	-53.8	-27.3	3.0	38.9	-52.0	57.6
Cx =	38.7	38.7	38.7	40.3	40.3	39.5	38.7	40.3	42.3
Statistical Significance ?	No	No	No	No	No	No	**Yes**	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	NE	-	NE

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total Vanadium averaged over these compliance wells are significantly greater than that of the background wells.
Shewart-CUSUM Control Charts should be performed for each failing well to check for statistical significance.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Vanadium**
NC MCL (µg/l):	Not Established
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-8	MDL
4/24/2000	**78**	**5**
4/9/2001	**230**	**5**
4/15/2002	**260**	**5**
9/26/2002	**310**	**5**
4/28/2003	**230**	**5**
10/30/2003	**14**	**5**
4/20/2004	**240**	**5**
10/21/2004	**160**	**5**
4/18/2005	**240**	**5**
10/13/2005	**170**	**5**
4/25/2006	**120**	**40**
10/20/2006	ND	**5**
4/25/2007	ND	**25**
10/31/2007	**103**	**5**
4/23/2008	**10**	**5**
10/20/2008	ND	**5**
4/22/2009	ND	**5**
10/26/2009	**12**	**5**
4/22/2010	ND	**5**

If not detected (ND), use half of the detection limit.

		X_i values =
	78	-53897.43
	230	1490385.1
	260	3000084.8
	310	7326966.7
	230	1490385.1
	14	-1054160
	240	1917082.6
	160	86505.215
	240	1917082.6
	170	159452.12
	120	75.489376
	2.5	-1453406
	12.5	-1101461
	103	-2084.244
	10	-1183404
	2.5	-1453406
	2.5	-1453406
	12.2	-1111088
	2.5	-1453406

X_{bar} = 115.77368
SD = 109.60832
N = 19
$1/N\Sigma_i(X_i-X_{bar})^3$ = 372015.82
γ_1 = 0.3063744

Since the Coefficient of Skewness of 0.31 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the real detected values shown above.

		X_i values =
ln =	4.3567088	0.2531244
	5.4380793	5.0348929
	5.5606816	6.1944961
	5.7365723	8.1501794
	5.4380793	5.0348929
	2.6390573	-1.277563
	5.4806389	5.4193535
	5.0751738	2.4660599
	5.4806389	5.4193535
	5.1357984	2.8131548
	4.7874917	1.2023673
	0.9162907	-22.13701
	2.5257286	-1.721124
	4.634729	0.755048
	2.3025851	-2.872673
	0.9162907	-22.13701
	0.9162907	-22.13701
	2.501436	-1.827926
	0.9162907	-22.13701

X_{bar} = 3.7241348
SD = 1.8754572
N = 19
$1/N\Sigma_i(X_i-X_{bar})^3$ = -2.816021
γ_1 = 0.4629522

Use the real values (not log-transformed) indicated in the previous section.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-8	MDL	Data for Testing
4/24/2000	**78**	5	78
4/9/2001	**230**	5	230
4/15/2002	**260**	5	260
9/26/2002	**310**	5	310
4/28/2003	**230**	5	230
10/30/2003	**14**	5	14
4/20/2004	**240**	5	240
10/21/2004	**160**	5	160
4/18/2005	**240**	5	240
10/13/2005	**170**	5	170
4/25/2006	**120**	40	120
10/20/2006	ND	5	2.5
4/25/2007	ND	25	12.5
10/31/2007	**103**	5	103
4/23/2008	**10**	5	10
10/20/2008	ND	5	2.5
4/22/2009	ND	5	2.5
10/26/2009	**12.2**	5	12.2
4/22/2010	ND	5	2.5

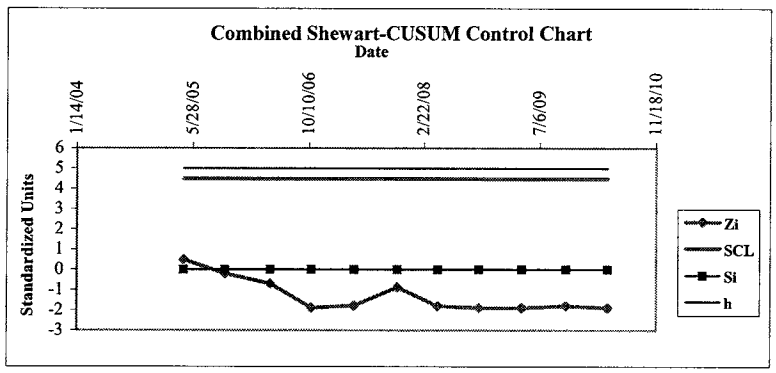
Compute the mean and standard deviation of the historical data:

190.25 = x_{mean} (Mean of N1-N8 historical data)
99.584494 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
4/18/2005	240	0.49957577	0	5	4.5
10/13/2005	170	-0.2033449	0	5	4.5
4/25/2006	120	-0.7054311	0	5	4.5
10/20/2006	2.5	-1.8853337	0	5	4.5
4/25/2007	12.5	-1.7849164	0	5	4.5
10/31/2007	103	-0.8761404	0	5	4.5
4/23/2008	10	-1.8100207	0	5	4.5
10/20/2008	2.5	-1.8853337	0	5	4.5
4/22/2009	2.5	-1.8853337	0	5	4.5
10/26/2009	12.2	-1.787929	0	5	4.5
4/22/2010	2.5	-1.8853337	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h.
The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Vanadium**
NC MCL (µg/l):	Not Established
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**1000**	**5**
4/28/2003	**130**	**5**
10/30/2003	**200**	**5**
4/20/2004	**88**	**5**
10/21/2004	**210**	**5**
4/18/2005	**110**	**5**
10/13/2005	**82**	**5**
4/25/2006	**85**	**40**
10/20/2006	**30**	**5**
4/25/2007	**26**	**25**
10/31/2007	**48.2**	**5**
4/23/2008	**23.1**	**5**
10/20/2008	**14.8**	**5**
4/22/2009	NS	**5**
10/26/2009	**11.9**	**5**
4/22/2010	ND	**5**

If not detected (ND), use half of the detection limit.

1000	X_i values =	641767933
130		-410.7247
200		244922.71
88		-120798
210		382130.34
110		-20645.99
82		-170338.6
85		-144152.6
30		-1239987
26		-1383711
48.2		-710528.2
23.1		-1494578
14.8		-1844275
11.9		-1978232
2.5		-2456732

X_{bar} = 137.43333
SD = 247.31038
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = 42055373
γ_1 = 3.0834669

Since the Coefficient of Skewness of 3.08 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	6.9077553	X_i values = 24.232046
	4.8675345	0.6218405
	5.2983174	2.1184958
	4.4773368	0.0994763
	5.3471075	2.3692217
	4.7004804	0.3235222
	4.4067192	0.0605733
	4.4426513	0.0787669
	3.4011974	-0.230112
	3.2580965	-0.431898
	3.875359	-0.002664
	3.1398326	-0.667987
	2.6946272	-2.296637
	2.4765384	-3.63416
	0.9162907	-29.72471

X_{bar} = 4.0139896
SD = 1.4388372
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.472282
γ_1 = 0.1758372

Since the Coefficient of Skewness of 0.18 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**1000**	5	6.9077553
4/28/2003	**130**	5	4.8675345
10/30/2003	**200**	5	5.2983174
4/20/2004	**88**	5	4.4773368
10/21/2004	**210**	5	5.3471075
4/18/2005	**110**	5	4.7004804
10/13/2005	**82**	5	4.4067192
4/25/2006	**85**	40	4.4426513
10/20/2006	**30**	5	3.4011974
4/25/2007	**26**	25	3.2580965
10/31/2007	**48.2**	5	3.875359
4/23/2008	**23.1**	5	3.1398326
10/20/2008	**14.8**	5	2.6946272
4/22/2009	NS	5	-
10/26/2009	**11.9**	5	2.4765384
4/22/2010	ND	5	0.9162907

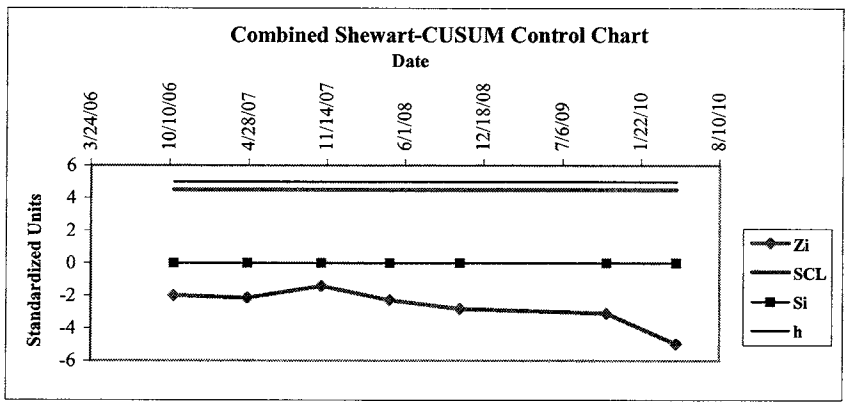
Compute the mean and standard deviation of the historical data:

5.0559878 = x_{mean} (Mean of N1-N8 historical data)
0.8338367 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	3.4011974	-1.9845497	0	5	4.5
4/25/2007	3.2580965	-2.1561671	0	5	4.5
10/31/2007	3.875359	-1.4158992	0	5	4.5
4/23/2008	3.1398326	-2.2979981	0	5	4.5
10/20/2008	2.6946272	-2.8319221	0	5	4.5
10/26/2009	2.4765384	-3.0934706	0	5	4.5
4/22/2010	0.9162907	-4.9646376	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h. The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Total Zinc**
NC MCL (µg/l): 1050
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	150	NS	NS	35	48	36	12	43	28	68	ND	NS	10
06/26/00	37	12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
07/26/00	65	66	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	50
04/09/01	230	130	NS	12	24	18	17	33	75	200	3	NS	10
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	50
04/15/02	230	16	NS	ND	ND	13	33	38	120	230	52	NS	10
09/26/02	57	120	110	580	ND	20	ND	56	250	280	43	4800	10
04/28/03	86	14	31	160	16	ND	ND	ND	81	190	240	800	10
10/30/03	55	22	NT	17	26	10	ND	ND	140	26	64	1800	10
04/20/04	55	10	ND	44	30	11	14	19	23	220	160	770	10
10/21/04	29	ND	ND	17	ND	14	ND	12	15	70	55	1200	10
04/18/05	83	ND	ND	780	ND	30	13	10	ND	240	200	1200	10
10/13/05	92	13	12	230	19	25	ND	ND	14	170	81	800	10
04/25/06	130	ND	88	ND	ND	ND	ND	ND	110	120	120	780	50
10/20/06	74	ND	20	37	ND	ND	ND	ND	55	ND	82	200	10
04/25/07	55	21	30	30	22	830	22	15	10	12	74	200	10
10/31/07	86	ND	66.2	14	37.4	33.3	12	ND	11.6	91.1	66.9	336	10
04/23/08	27.3	ND	50.3	12.2	24.4	36.9	ND	10.3	17.5	38.8	123	138	10
10/20/08	66.5	19.9	59.2	15.3	10.6	29.1	ND	12.4	ND	17.4	86.2	71.5	10
04/22/09	23.1	43.5	99.9	25.3	17.9	17.6	10.5	ND	35.2	ND	51	NS	10
10/26/09	19.6	ND	14.8	ND	37.8	ND	NS	NS	NS	ND	NS	63.8	10
04/22/10	22.2	14.2	ND	ND	ND	ND	NS	NS	ND	ND	NS	24.6	10
N_i	21	20	15	19	19	19	17	17	18	19	17	15	
sum of rank values (R_i)	3176.5	1568.0	1560.5	1998.5	1466.0	1615.5	882.5	1147.5	2008.5	2551.5	2567.5	2893.5	
avg rank value (Rbar)	151.3	78.4	104.0	105.2	77.2	85.0	51.9	67.5	111.6	134.3	151.0	192.9	

	Number of each rank value												Rank Value
rank value of NDs =	0	7	4	4	7	5	9	7	3	4	1	0	26
rank value of 3s =	0	0	0	0	0	0	0	0	0	0	1	0	52
rank value of 10s =	0	1	0	0	0	1	0	1	1	0	0	0	54.5
rank value of 10.3s =	0	0	0	0	0	0	0	1	0	0	0	0	57
rank value of 10.5s =	0	0	0	0	0	0	1	0	0	0	0	0	58
rank value of 10.6s =	0	0	0	0	1	0	0	0	0	0	0	0	59
rank value of 11s =	0	0	0	0	0	1	0	0	0	0	0	0	60
rank value of 11.6s =	0	0	0	0	0	0	0	0	1	0	0	0	61
rank value of 12s =	0	1	1	1	0	0	2	1	0	1	0	0	65
rank value of 12.2s =	0	0	0	1	0	0	0	0	0	0	0	0	69
rank value of 12.4s =	0	0	0	0	0	0	0	1	0	0	0	0	70
rank value of 13s =	0	1	0	0	0	1	1	0	0	0	0	0	72
rank value of 14s =	0	1	0	1	0	1	1	0	1	0	0	0	76
rank value of 14.2s =	0	1	0	0	0	0	0	0	0	0	0	0	79
rank value of 14.8s =	0	0	1	0	0	0	0	0	0	0	0	0	80
rank value of 15s =	0	0	0	0	0	0	0	1	1	0	0	0	81.5
rank value of 15.3s =	0	0	0	1	0	0	0	0	0	0	0	0	83
rank value of 16s =	0	1	0	0	1	0	0	0	0	0	0	0	84.5
rank value of 17s =	0	0	0	2	0	0	1	0	0	0	0	0	87
rank value of 17.4s =	0	0	0	0	0	0	0	0	0	1	0	0	89
rank value of 17.5s =	0	0	0	0	0	0	0	0	1	0	0	0	90
rank value of 17.6s =	0	0	0	0	0	1	0	0	0	0	0	0	91
rank value of 17.9s =	0	0	0	0	1	0	0	0	0	0	0	0	92
rank value of 18s =	0	0	0	0	0	1	0	0	0	0	0	0	93
rank value of 19s =	0	0	0	0	1	0	0	1	0	0	0	0	94.5
rank value of 19.6s =	1	0	0	0	0	0	0	0	0	0	0	0	96
rank value of 19.9s =	0	1	0	0	0	0	0	0	0	0	0	0	97
rank value of 20s =	0	0	1	0	0	1	0	0	0	0	0	0	98.5
rank value of 21s =	0	1	0	0	0	0	0	0	0	0	0	0	100
rank value of 22s =	0	1	0	0	1	0	1	0	0	0	0	0	102
rank value of 22.2s =	1	0	0	0	0	0	0	0	0	0	0	0	104
rank value of 23s =	0	0	0	0	0	0	0	0	1	0	0	0	105
rank value of 23.1s =	1	0	0	0	0	0	0	0	0	0	0	0	106
rank value of 24s =	0	0	0	0	1	0	0	0	0	0	0	0	107
rank value of 24.4s =	0	0	0	0	1	0	0	0	0	0	0	0	108
rank value of 24.6s =	0	0	0	0	0	0	0	0	0	0	0	1	109
rank value of 25s =	0	0	0	0	0	1	0	0	0	0	0	0	110
rank value of 25.3s =	0	0	0	1	0	0	0	0	0	0	0	0	111
rank value of 26s =	0	0	0	0	1	0	0	0	0	1	0	0	112.5
rank value of 27.3s =	1	0	0	0	0	0	0	0	0	0	0	0	114

rank value of 28s =	0	0	0	0	0	0	0	0	1	0	0	0	115
rank value of 29s =	1	0	0	0	0	0	0	0	0	0	0	0	116
rank value of 29.1s =	0	0	0	0	0	1	0	0	0	0	0	0	117
rank value of 30s =	0	0	1	1	1	1	0	0	0	0	0	0	119.5
rank value of 31s =	0	0	1	0	0	0	0	0	0	0	0	0	122
rank value of 33s =	0	0	0	0	0	0	1	1	0	0	0	0	123.5
rank value of 33.3s =	0	0	0	0	0	1	0	0	0	0	0	0	125
rank value of 35s =	0	0	0	1	0	0	0	0	0	0	0	0	126
rank value of 35.2s =	0	0	0	0	0	0	0	0	1	0	0	0	127
rank value of 36s =	0	0	0	0	0	1	0	0	0	0	0	0	128
rank value of 36.9s =	0	0	0	0	0	1	0	0	0	0	0	0	129
rank value of 37s =	1	0	0	1	0	0	0	0	0	0	0	0	130.5
rank value of 37.4s =	0	0	0	0	1	0	0	0	0	0	0	0	132
rank value of 37.8s =	0	0	0	0	1	0	0	0	0	0	0	0	133
rank value of 38s =	0	0	0	0	0	0	0	1	0	0	0	0	134
rank value of 38.8s =	0	0	0	0	0	0	0	0	0	1	0	0	135
rank value of 43s =	0	0	0	0	0	0	0	1	0	0	1	0	136.5
rank value of 43.5s =	0	1	0	0	0	0	0	0	0	0	0	0	138
rank value of 44s =	0	0	0	1	0	0	0	0	0	0	0	0	139
rank value of 48s =	0	0	0	0	1	0	0	0	0	0	0	0	140
rank value of 50.3s =	0	0	1	0	0	0	0	0	0	0	0	0	141
rank value of 51s =	0	0	0	0	0	0	0	0	0	0	1	0	142
rank value of 52s =	0	0	0	0	0	0	0	0	0	0	1	0	143
rank value of 55s =	3	0	0	0	0	0	0	0	1	0	1	0	146
rank value of 56s =	0	0	0	0	0	0	0	1	0	0	0	0	149
rank value of 57s =	1	0	0	0	0	0	0	0	0	0	0	0	150
rank value of 59.2s =	0	0	1	0	0	0	0	0	0	0	0	0	151
rank value of 63.8s =	0	0	0	0	0	0	0	0	0	0	0	1	152
rank value of 64s =	0	0	0	0	0	0	0	0	0	0	1	0	153
rank value of 65s =	1	0	0	0	0	0	0	0	0	0	0	0	154
rank value of 66s =	0	1	0	0	0	0	0	0	0	0	0	0	155
rank value of 66.2s =	0	0	1	0	0	0	0	0	0	0	0	0	156
rank value of 66.5s =	1	0	0	0	0	0	0	0	0	0	0	0	157
rank value of 66.9s =	0	0	0	0	0	0	0	0	0	0	1	0	158
rank value of 68s =	0	0	0	0	0	0	0	0	0	1	0	0	159
rank value of 70s =	0	0	0	0	0	0	0	0	0	1	0	0	160
rank value of 71.5s =	0	0	0	0	0	0	0	0	0	0	0	1	161
rank value of 74s =	1	0	0	0	0	0	0	0	0	0	1	0	162.5
rank value of 75s =	0	0	0	0	0	0	0	0	1	0	0	0	164
rank value of 81s =	0	0	0	0	0	0	0	0	1	0	1	0	165.5
rank value of 82s =	0	0	0	0	0	0	0	0	0	0	1	0	167
rank value of 83s =	1	0	0	0	0	0	0	0	0	0	0	0	168
rank value of 86s =	2	0	0	0	0	0	0	0	0	0	0	0	169.5
rank value of 86.2s =	0	0	0	0	0	0	0	0	0	0	1	0	171
rank value of 88s =	0	0	1	0	0	0	0	0	0	0	0	0	172
rank value of 91.1s =	0	0	0	0	0	0	0	0	0	1	0	0	173
rank value of 92s =	1	0	0	0	0	0	0	0	0	0	0	0	174
rank value of 99.9s =	0	0	1	0	0	0	0	0	0	0	0	0	175
rank value of 110s =	0	0	1	0	0	0	0	0	1	0	0	0	176.5
rank value of 120s =	0	1	0	0	0	0	0	0	1	1	1	0	179.5
rank value of 123s =	0	0	0	0	0	0	0	0	0	0	1	0	182
rank value of 130s =	1	1	0	0	0	0	0	0	0	0	0	0	183.5
rank value of 138s =	0	0	0	0	0	0	0	0	0	0	0	1	185
rank value of 140s =	0	0	0	0	0	0	0	0	1	0	0	0	186
rank value of 150s =	1	0	0	0	0	0	0	0	0	0	0	0	187
rank value of 160s =	0	0	0	1	0	0	0	0	0	0	1	0	188.5
rank value of 170s =	0	0	0	0	0	0	0	0	0	1	0	0	190
rank value of 190s =	0	0	0	0	0	0	0	0	0	1	0	0	191
rank value of 200s =	0	0	0	0	0	0	0	0	0	1	1	2	193.5
rank value of 220s =	0	0	0	0	0	0	0	0	0	1	0	0	196
rank value of 230s =	2	0	0	1	0	0	0	0	0	1	0	0	198.5
rank value of 240s =	0	0	0	0	0	0	0	0	0	1	1	0	201.5
rank value of 250s =	0	0	0	0	0	0	0	0	1	0	0	0	203
rank value of 280s =	0	0	0	0	0	0	0	0	0	1	0	0	204
rank value of 336s =	0	0	0	0	0	0	0	0	0	0	0	1	205
rank value of 580s =	0	0	0	1	0	0	0	0	0	0	0	0	206
rank value of 770s =	0	0	0	0	0	0	0	0	0	0	0	1	207
rank value of 780s =	0	0	0	1	0	0	0	0	0	0	0	1	208.5
rank value of 800s =	0	0	0	0	0	0	0	0	0	0	0	2	210.5
rank value of 830s =	0	0	0	0	0	1	0	0	0	0	0	0	212
rank value of 1200s =	0	0	0	0	0	0	0	0	0	0	0	2	213.5
rank value of 1800s =	0	0	0	0	0	0	0	0	0	0	0	1	215
rank value of 4800s =	0	0	0	0	0	0	0	0	0	0	0	1	216
n =	**21**	**20**	**15**	**19**	**19**	**19**	**17**	**17**	**18**	**19**	**17**	**15**	

Sum of rank value calculations

0	182	104	104	182	130	234	182	78	104	26	0
0	0	0	0	0	0	0	0	0	0	52	0
0	54.5	0	0	0	54.5	0	54.5	54.5	0	0	0
0	0	0	0	0	0	0	57	0	0	0	0

0	0	0	0	0	0	58	0	0	0	0	0
0	0	0	0	59	0	0	0	0	0	0	0
0	0	0	0	0	60	0	0	0	0	0	0
0	0	0	0	0	0	0	0	61	0	0	0
0	65	65	65	0	0	130	65	0	65	0	0
0	0	0	69	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	70	0	0	0	0
0	72	0	0	0	72	72	0	0	0	0	0
0	76	0	76	0	76	76	0	76	0	0	0
0	79	0	0	0	0	0	0	0	0	0	0
0	0	80	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	81.5	81.5	0	0	0
0	0	0	83	0	0	0	0	0	0	0	0
0	84.5	0	0	84.5	0	0	0	0	0	0	0
0	0	0	174	0	0	87	0	0	0	0	0
0	0	0	0	0	0	0	0	0	89	0	0
0	0	0	0	0	0	0	0	90	0	0	0
0	0	0	0	0	91	0	0	0	0	0	0
0	0	0	0	92	0	0	0	0	0	0	0
0	0	0	0	0	93	0	0	0	0	0	0
0	0	0	0	94.5	0	0	94.5	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0
0	97	0	0	0	0	0	0	0	0	0	0
0	0	98.5	0	0	98.5	0	0	0	0	0	0
0	100	0	0	0	0	0	0	0	0	0	0
0	102	0	0	102	0	102	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	105	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	107	0	0	0	0	0	0	0
0	0	0	0	108	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	109
0	0	0	0	0	110	0	0	0	0	0	0
0	0	0	111	0	0	0	0	0	0	0	0
0	0	0	0	112.5	0	0	0	0	112.5	0	0
114	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	115	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	117	0	0	0	0	0	0
0	0	119.5	119.5	119.5	119.5	0	0	0	0	0	0
0	0	122	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	123.5	123.5	0	0	0	0
0	0	0	0	0	125	0	0	0	0	0	0
0	0	0	126	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	127	0	0	0
0	0	0	0	0	128	0	0	0	0	0	0
0	0	0	0	0	129	0	0	0	0	0	0
130.5	0	0	130.5	0	0	0	0	0	0	0	0
0	0	0	0	132	0	0	0	0	0	0	0
0	0	0	0	133	0	0	0	0	0	0	0
0	0	0	0	0	0	0	134	0	0	0	0
0	0	0	0	0	0	0	0	0	135	0	0
0	0	0	0	0	0	0	136.5	0	0	136.5	0
0	138	0	0	0	0	0	0	0	0	0	0
0	0	0	139	0	0	0	0	0	0	0	0
0	0	0	0	140	0	0	0	0	0	0	0
0	0	141	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	142	0
0	0	0	0	0	0	0	0	0	0	143	0
438	0	0	0	0	0	0	0	146	0	146	0
0	0	0	0	0	0	0	149	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0
0	0	151	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	152
0	0	0	0	0	0	0	0	0	0	153	0
154	0	0	0	0	0	0	0	0	0	0	0
0	155	0	0	0	0	0	0	0	0	0	0
0	0	156	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	158	0
0	0	0	0	0	0	0	0	0	159	0	0
0	0	0	0	0	0	0	0	0	160	0	0
0	0	0	0	0	0	0	0	0	0	0	161
162.5	0	0	0	0	0	0	0	0	0	162.5	0
0	0	0	0	0	0	0	0	164	0	0	0
0	0	0	0	0	0	0	0	165.5	0	165.5	0
0	0	0	0	0	0	0	0	0	0	167	0
168	0	0	0	0	0	0	0	0	0	0	0
339	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	171	0
0	0	172	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	173	0	0
174	0	0	0	0	0	0	0	0	0	0	0

0	0	175	0	0	0	0	0	0	0	0	0
0	0	176.5	0	0	0	0	0	176.5	0	0	0
0	179.5	0	0	0	0	0	0	179.5	179.5	179.5	0
0	0	0	0	0	0	0	0	0	0	182	0
183.5	183.5	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	185
0	0	0	0	0	0	0	0	186	0	0	0
187	0	0	0	0	0	0	0	0	0	0	0
0	0	0	188.5	0	0	0	0	0	0	188.5	0
0	0	0	0	0	0	0	0	0	190	0	0
0	0	0	0	0	0	0	0	0	191	0	0
0	0	0	0	0	0	0	0	0	193.5	193.5	387
0	0	0	0	0	0	0	0	0	196	0	0
397	0	0	198.5	0	0	0	0	0	198.5	0	0
0	0	0	0	0	0	0	0	0	201.5	201.5	0
0	0	0	0	0	0	0	0	203	0	0	0
0	0	0	0	0	0	0	0	0	204	0	0
0	0	0	0	0	0	0	0	0	0	0	205
0	0	0	206	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	207
0	0	0	208.5	0	0	0	0	0	0	0	208.5
0	0	0	0	0	0	0	0	0	0	0	421
0	0	0	0	0	212	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	427
0	0	0	0	0	0	0	0	0	0	0	215
0	0	0	0	0	0	0	0	0	0	0	216
sum of rank values (R_i)	**3176.5**	**1568**	**1560.5**	**1998.5**	**1466**	**1615.5**	**882.5**	**1147.5**	**2008.5**	**2551.5**	**2567.5**	**2893.5**

Compute the Kruskal-Wallis statistic:

$$H = \{[12/N(N+1)] * [\Sigma^{K}_{i=1} (R_i^2)/N_i]\} -3(N+1)$$

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Ri^2/N_i =	709875.4	210211	113113	137360	45812	77456	224115	342640	387768	558156

$N_{i\,bg}$ = 56
N = 216
H = 67.51

Adjust H for ties:

T_i = 133656 sum of T1..T5

$H' = H/(1-(T_i/(N^3-N)))$
H' = 68.42
Chi-square = 16.92

Compare the calculated value H' to the tabulated Chi-square value with K-1 = # groups -1 = 17df at the 5% significance level from Table 1 of the IFG. The value is 16.92 which is less than H' =68.42.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

Calculate the critical values to compare each compliance well to the background wells:

Critical Value $(C_x) = P(N(N+1)/12)^{0.5} * (1/N_{i\,bg}+1/N_x)^{0.5}$
P = 2.33 Percentile of Standard Normal Distribution
from Table 4 of IFG
N = total sample size
$N_{i\,bg}$ = total samples (N_i) of background data
N_x = total samples (N_i) of well x

Difference between average ranks (Dx) = Rbar (well x) - avg Rbar (background)

Well =	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-9**	**MW-15**
Rbar (well x) =	105.2	77.2	85.0	51.9	67.5	111.6	134.3	151.0	192.9
avg Rbar (background) =	112.6	112.6	112.6	112.6	112.6	112.6	112.6	112.6	112.6
Dx =	-7.4	-35.4	-27.6	-60.7	-45.1	-1.0	21.7	38.4	80.3
Cx =	38.7	38.7	38.7	40.3	40.3	39.5	38.7	40.3	42.3
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	No

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total Zinc averaged over these compliance wells are significantly greater than that of the background wells.
Shewart-CUSUM Control Charts should be performed for each failing well to check for statistical significance.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound:	**Total Zinc**
NC MCL (µg/l):	1050
Method:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**4800**	**10**
4/28/2003	**800**	**10**
10/30/2003	**1800**	**10**
4/20/2004	**770**	**10**
10/21/2004	**1200**	**10**
4/18/2005	**1200**	**10**
10/13/2005	**800**	**10**
4/25/2006	**780**	**50**
10/20/2006	**200**	**10**
4/25/2007	**200**	**10**
10/31/2007	**336**	**10**
4/23/2008	**138**	**10**
10/20/2008	**71.5**	**10**
4/22/2009	NS	**10**
10/26/2009	**63.8**	**10**
4/22/2010	**24.6**	**10**

If not detected (ND), use half of the detection limit.

	X_i values =
4800	6.029E+10
800	-491667.3
1800	781416589
770	-1292417
1200	33098835
1200	33098835
800	-491667.3
780	-968144.4
200	-3.13E+08
200	-3.13E+08
336	-1.6E+08
138	-4.07E+08
71.5	-5.26E+08
63.8	-5.42E+08
24.6	-6.24E+08

X_{bar} = 878.92667
SD = 1203.428
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = 3.883E+09
γ_1 = 2.4709208

Since the Coefficient of Skewness of 2.47 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

	X_i values =
ln = 8.4763712	15.437501
6.6846117	0.3403612
7.4955419	3.4370069
6.6463905	0.2874687
7.0900768	1.3443498
7.0900768	1.3443498
6.6846117	0.3403612
6.6592939	0.3046616
5.2983174	-0.325794
5.2983174	-0.325794
5.8171112	-0.004853
4.9272537	-1.188179
4.2696974	-5.05934
4.1557532	-6.135102
3.2027464	-21.57004

X_{bar} = 5.9864114
SD = 1.4372959
N = 15
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.784869
γ_1 = 0.2931593

Since the Coefficient of Skewness of 0.29 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**4800**	10	8.4763712
4/28/2003	**800**	10	6.6846117
10/30/2003	**1800**	10	7.4955419
4/20/2004	**770**	10	6.6463905
10/21/2004	**1200**	10	7.0900768
4/18/2005	**1200**	10	7.0900768
10/13/2005	**800**	10	6.6846117
4/25/2006	**780**	50	6.6592939
10/20/2006	**200**	10	5.2983174
4/25/2007	**200**	10	5.2983174
10/31/2007	**336**	10	5.8171112
4/23/2008	**138**	10	4.9272537
10/20/2008	**71.5**	10	4.2696974
4/22/2009	NS	10	-
10/26/2009	**63.8**	10	4.1557532
4/22/2010	**24.6**	10	3.2027464

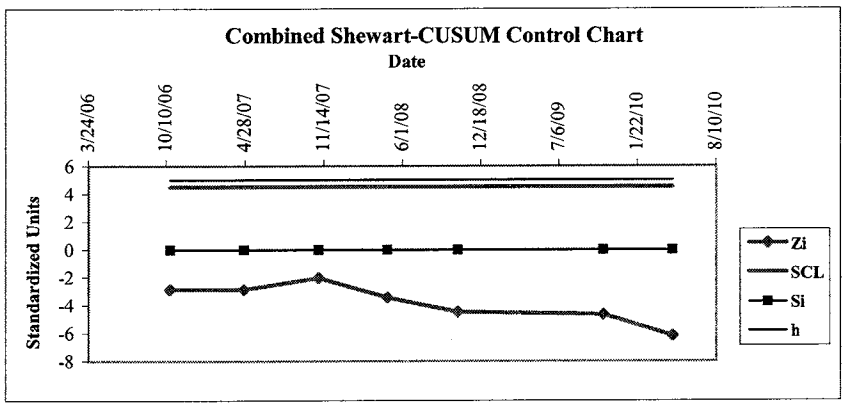
Compute the mean and standard deviation of the historical data:

7.1033718 = x_{mean} (Mean of N1-N8 historical data)
0.6320076 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

Compute the standardized mean (Z_i) and the cumulative sum (S_i) for each concentration.

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	5.2983174	-2.8560645	0	5	4.5
4/25/2007	5.2983174	-2.8560645	0	5	4.5
10/31/2007	5.8171112	-2.0351981	0	5	4.5
4/23/2008	4.9272537	-3.4431835	0	5	4.5
10/20/2008	4.2696974	-4.483608	0	5	4.5
10/26/2009	4.1557532	-4.6638974	0	5	4.5
4/22/2010	3.2027464	-6.1718013	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h. The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Acetone**
MCL (µg/l): 700
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	**100**
06/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
07/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	**100**
04/09/01	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
04/15/02	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/26/02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**
04/28/03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**
10/30/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
10/13/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
04/25/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**140**	**25**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**25**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	**25**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	**25**

1) If not detected (ND), use half of the detection limit.

04/24/00	-	-	-	-	-	-	-	-	-	-	-	-
06/26/00	-	-	-	-	-	-	-	-	-	-	-	-
07/26/00	-	-	-	-	-	-	-	-	-	-	-	-
09/18/00	-	-	-	-	-	-	-	-	-	-	-	-
04/09/01	-	-	-	-	-	-	-	-	-	-	-	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	-	-	-	-	-	-	-	-	-	-	-	-
09/26/02	-	-	-	-	-	-	-	-	-	-	-	-
04/28/03	-	-	-	-	-	-	-	-	-	-	-	-
10/30/03	5	5	5	5	5	5	5	5	5	5	5	5
04/20/04	5	5	5	5	5	5	5	5	5	5	5	5
10/21/04	5	5	5	5	5	5	5	5	5	5	5	5
04/18/05	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
10/13/05	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
04/25/06	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
10/20/06	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
04/25/07	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
10/31/07	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
04/23/08	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
10/20/08	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	140
04/22/09	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	-
10/26/09	12.5	12.5	12.5	12.5	12.5	12.5	-	-	-	12.5	-	12.5
04/22/10				12.5	12.5	12.5	-	-	12.5	12.5	-	12.5

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 13.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 39$
$T_{n1} = 420$

3) Using Gibbons' formula, calculate the upper Poisson Prediction limit T^*_k:

$$T^*_k = cT_{n1} + ct^2/2 + ct[T_{n1}(1+1/c) + t^2/4]^{0.5}$$

where $c = k/n$
and where k = the number of future predicted measurements (one per well during the current sampling event)
and where t = the upper 99th percentile of the t-distribution with (n-1) degrees of freedom (Table 6 of the IFG).

$k = 6$
$n = 39$
$T_{n1} = 420$
$t[38,.01] = 2.4298$
$c = 0.1538$
$T_{n2} = 75$
$T^*_k = 86.1$

4) Compare the *Poisson Prediction Limit* (T^*_k) to the *Sum of the Concentrations Detected* (T_{n2}) in the wells during the most recent sampling event.
Since the Poisson Prediction Limit was not exceeded, there is no evidence of contamination.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **Carbon Disulfide**
MCL (µg/l): 700
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	**100**
06/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
07/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	**100**
04/09/01	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
04/15/02	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/26/02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**
04/28/03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**
10/30/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/21/04	ND	**24**	ND	ND	ND	ND	ND	ND	**15**	ND	ND	ND	**10**
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/13/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**4.5**	ND	ND	NS	**2**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	**2**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	**2**

1) If not detected (ND), use half of the detection limit.

04/24/00	-	-	-	-	-	-	-	-	-	-	-	-
06/26/00	-	-	-	-	-	-	-	-	-	-	-	-
07/26/00	-	-	-	-	-	-	-	-	-	-	-	-
09/18/00	-	-	-	-	-	-	-	-	-	-	-	-
04/09/01	-	-	-	-	-	-	-	-	-	-	-	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	-	-	-	-	-	-	-	-	-	-	-	-
09/26/02	-	-	-	-	-	-	-	-	-	-	-	-
04/28/03	-	-	-	-	-	-	-	-	-	-	-	-
10/30/03	5	5	5	5	5	5	5	5	5	5	5	5
04/20/04	5	5	5	5	5	5	5	5	5	5	5	5
10/21/04	5	24	5	5	5	5	5	5	15	5	5	5
04/18/05	5	5	5	5	5	5	5	5	5	5	5	5
10/13/05	5	5	5	5	5	5	5	5	5	5	5	5
04/25/06	5	5	5	5	5	5	5	5	5	5	5	5
10/20/06	5	5	5	5	5	5	5	5	5	5	5	5
04/25/07	5	5	5	5	5	5	5	5	5	5	5	5
10/31/07	1	1	1	1	1	1	1	1	1	1	1	1
04/23/08	1	1	1	1	1	1	1	1	1	1	1	1
10/20/08	1	1	1	1	1	1	1	1	1	1	1	1
04/22/09	1	1	1	1	1	1	1	1	4.5	1	1	-
10/26/09	1	1	1	1	1	1	-	-	-	1	-	1
04/22/10				1	1	1	-	-	1	1	-	1

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 13.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 39$
$T_{n1} = 154$

3) Using Gibbons' formula, calculate the upper Poisson Prediction limit T^*_k:

$$T^*_k = cT_{n1} + ct^2/2 + ct[T_{n1}(1+1/c) + t^2/4]^{0.5}$$

where $c = k/n$
and where k = the number of future predicted measurements (one per well during the current sampling event)
and where t = the upper 99th percentile of the t-distribution with (n-1) degrees of freedom (Table 6 of the IFG).

$k = 6$
$n = 39$
$T_{n1} = 154$
$t[38,.01] = 2.4298$
$c = 0.1538$
$T_{n2} = 6$
$T^*_k = 36.9$

4) Compare the *Poisson Prediction Limit* (T^*_k) to the *Sum of the Concentrations Detected* (T_{n2}) in the wells during the most recent sampling event.
Since the Poisson Prediction Limit was not exceeded, there is no evidence of contamination.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

Compound: **2-Butanone**
MCL (µg/l): 4200
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-9	MW-15	MDL
04/24/00	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	**100**
06/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
07/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	**100**
04/09/01	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
04/15/02	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/26/02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**
04/28/03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**
10/30/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/13/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**54.4**	**5**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**5**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	NS	ND	**5**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	NS	ND	**5**

1) If not detected (ND), use half of the detection limit.

04/24/00	-	-	-	-	-	-	-	-	-	-	-	-
06/26/00	-	-	-	-	-	-	-	-	-	-	-	-
07/26/00	-	-	-	-	-	-	-	-	-	-	-	-
09/18/00	-	-	-	-	-	-	-	-	-	-	-	-
04/09/01	-	-	-	-	-	-	-	-	-	-	-	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	-	-	-	-	-	-	-	-	-	-	-	-
09/26/02	-	-	-	-	-	-	-	-	-	-	-	-
04/28/03	-	-	-	-	-	-	-	-	-	-	-	-
10/30/03	5	5	5	5	5	5	5	5	5	5	5	5
04/20/04	5	5	5	5	5	5	5	5	5	5	5	5
10/21/04	5	5	5	5	5	5	5	5	5	5	5	5
04/18/05	5	5	5	5	5	5	5	5	5	5	5	5
10/13/05	5	5	5	5	5	5	5	5	5	5	5	5
04/25/06	5	5	5	5	5	5	5	5	5	5	5	5
10/20/06	5	5	5	5	5	5	5	5	5	5	5	5
04/25/07	5	5	5	5	5	5	5	5	5	5	5	5
10/31/07	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/23/08	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
10/20/08	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	54.4
04/22/09	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-
10/26/09	2.5	2.5	2.5	2.5	2.5	2.5	-	-	-	2.5	-	2.5
04/22/10				2.5	2.5	2.5	-	-	2.5	2.5	-	2.5

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 13.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 39$
$T_{n1} = 157.5$

3) Using Gibbons' formula, calculate the upper Poisson Prediction limit T^*_k:

$$T^*_k = cT_{n1} + ct^2/2 + ct[T_{n1}(1+1/c) + t^2/4]^{0.5}$$

where c = k/n
and where k = the number of future predicted measurements (one per well during the current sampling event)
and where t = the upper 99th percentile of the t-distribution with (n-1) degrees of freedom (Table 6 of the IFG).

$k = 6$
$n = 39$
$T_{n1} = 157.5$
$t[38,.01] = 2.4298$
$c = 0.1538$
$T_{n2} = 15$
$T^*_k = 37.5$

4) Compare the *Poisson Prediction Limit* (T^*_k) to the *Sum of the Concentrations Detected* (T_{n2}) in the wells during the most recent sampling event.
Since the Poisson Prediction Limit was not exceeded, there is no evidence of contamination.