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	October 20-21, 2008

Environmental Status: (Check all that apply)

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

Type of data submitted: (Check all that apply)

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

Notification attached?

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

Certification

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

Trevor J. Benton, P.G.	Hydrogeologist	864-288-1265
Facility Representative Name (Print)	Title	(Area Code) Telephone Number
Signature	01/20/09 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

SECOND SEMI-ANNUAL SAMPLING EVENT OF 2008

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

January 16, 2009

BLE Project Number J08-1957-05

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

January 16, 2009

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**
Second Semi-Annual Sampling Event of 2008
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 second semi-annual sampling event of 2008 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.

Trevor J. Benton, P.G.
Project Geologist
Registered, North Carolina No. 2025

NORTH CAROLINA LICENSED SEAL 2025 GEOLOGIST TREVOR J. BENTON
1/16/09

Mark S. Preddy, P.G.
Senior Geologist
Registered, North Carolina No. 1043

NORTH CAROLINA LICENSED SEAL 1043 GEOLOGIST MARK S. PREDDY
1/16/09

c.c: 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 fifteen groundwater monitoring wells consisting of two upgradient (MW-11S and MW-11D) and thirteen downgradient wells (MW-1A, MW-2, MW-2D, MW-3, MW-3D, MW-4A, MW-5A, MW-5D, MW-8, MW-9, MW-12, MW-13S, and MW-13D). 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. 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 2008. 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 (October 2008).

This report presents data from the second semi-annual sampling event in 2008 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, surface water, and leachate samples were collected for the second semi-annual sampling event of 2008 by personnel from Pace Analytical Services, Inc. (Pace) of Asheville, North Carolina on October 20 and 21, 2008. 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).

Groundwater samples were collected from each of the monitoring wells, surface water points, leachate lagoon sampling point. The settling pond was dry so no samples were collected. The 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. Additionally, the LSP was also analyzed for BOD, COD, sulfate, nitrate, nitrite, and nitrogen. 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 (17 wells), total beryllium (two wells), total chromium (six wells), total cobalt (14 wells), total copper (five wells), total lead (five wells), total nickel (eleven wells), total thallium (two wells), total vanadium (seven wells), and total zinc (12 wells) were detected in the groundwater monitoring wells during the current sampling event. The concentration of total lead in MW-15 was detected above North Carolina maximum contaminant level[1] (MCL). Two VOCs were detected (acetone and 2-butanone in GWC-15); however, the concentrations were below their respective MCLs. A summary of the detected concentrations is included in Appendix A.

Surface Water

Total metals were detected in each of the six surface water samples and the LSP sample during the current sampling event, but the detections were either below North Carolina surface water MCLs[2] or an MCL has not been established for these constituents. The detections included total arsenic (LSP), total barium (six surface waters and LSP), total chromium (one surface water and LSP), total cobalt (five surface waters and LSP), total copper (two surface waters), total lead (one surface water), total nickel (two surface waters and LSP), total selenium (two surface water), total thallium (one surface water), total vanadium (three surface waters, and LSP), and total zinc (six surface waters and LSP). No VOCs were detected. A 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 guidance documents for evaluating groundwater quality data, which include the *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Interim Final Guidance* (April 1989) and the *Addendum to the Interim Final Guidance* (July 1992). The procedures and methodology used for data analysis of this project are consistent with these US EPA guidance documents, 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. 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;

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[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.

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.

It is important to note that the nature of the statistical procedures applied to the data frequently leads to false positives, which result in statistically significant increases (SSI). These false positives are inherent to the statistical procedures themselves and are a result of the insufficiency of the mathematical equations to represent the multiple factors affecting the groundwater quality variability at a given site. Furthermore, a clear distinction should be made between the terms "calculated SSI" and "validated SSI." A calculated SSI is the result of the application of mathematical equations to evaluate variability of water quality data over time by mathematical means. A validated SSI is determined when, based on a review of the data set as a whole, it can be concluded that the calculated statistical significance might be a function of a release of leachate to groundwater, and not a function of natural variability and/or other conditions.

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, and carbon disulfide 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 did not calculate SSIs.

CONCLUSION

Concentrations of various total metals were detected in the groundwater monitoring wells and surface water sampling points during the current sampling event. Additionally, two VOCs were detected in GWC-15 (acetone and 2-butanone). Only concentrations of total lead in MW-15 were 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, none of the constituents were 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. 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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

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	0.0710	0.114	0.26	96.63
MW-2	1.50E-04	2.95E-04	4.31E+00	0.0710	0.114	2.68	978.37
MW-3	1.50E-04	2.95E-04	4.31E+00	0.0710	0.114	2.68	978.37
MW-4A	1.49E-04	2.93E-04	4.28E+00	0.2727	0.05	23.33	8,513.94
MW-5A	1.50E-04	2.95E-04	4.31E+00	0.0847	0.114	3.20	1,167.04
MW-8	1.50E-04	2.95E-04	4.31E+00	0.0710	0.114	2.68	978.37
MW-11S	2.40E-06	4.72E-06	6.89E-02	0.0639	0.114	0.04	14.09
MW-12	1.36E-04	2.68E-04	3.90E+00	0.0847	0.17	1.94	709.56
MW-13S	3.76E-04	7.40E-04	1.08E+01	0.0847	0.17	5.37	1,961.72
MW-14	1.38E-05	2.72E-05	3.96E-01	0.0649	0.17	0.15	55.18
MW-15	2.10E-05	4.13E-05	6.03E-01	0.0649	0.17	0.23	83.97

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 April 2008 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

TABLE 3

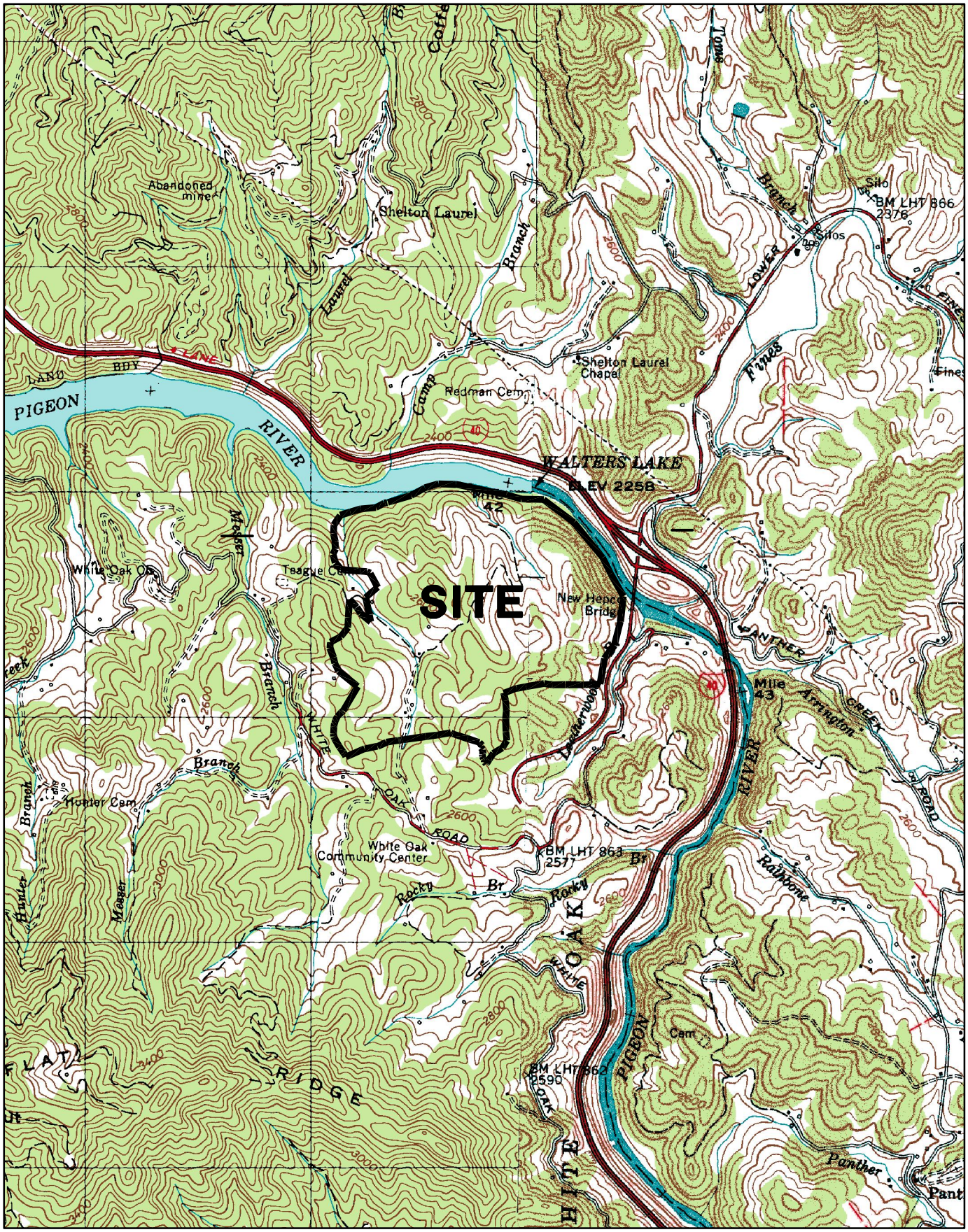
SUMMARY OF STATISTICAL ANALYSIS RESULTS
White Oak Landfill
Haywood County, North Carolina
BLE Project Number J08-1957-05

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	98%	Poisson Prediction Limits	Pass	-	-	-	-	-
Total Arsenic	86%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Barium	9%	ANOVA	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Beryllium	79%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Cadmium	79%	Kruskal-Wallis	Pass	-	-	-	-	-
Total Chromium	49%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Cobalt	58%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Copper	56%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Lead	66%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Nickel	51%	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	47%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Zinc	22%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Acetone	99%	Poisson Prediction Limits	Fail	Wilcoxon	Pass	-	-	-
Carbon Disulfide	95%	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

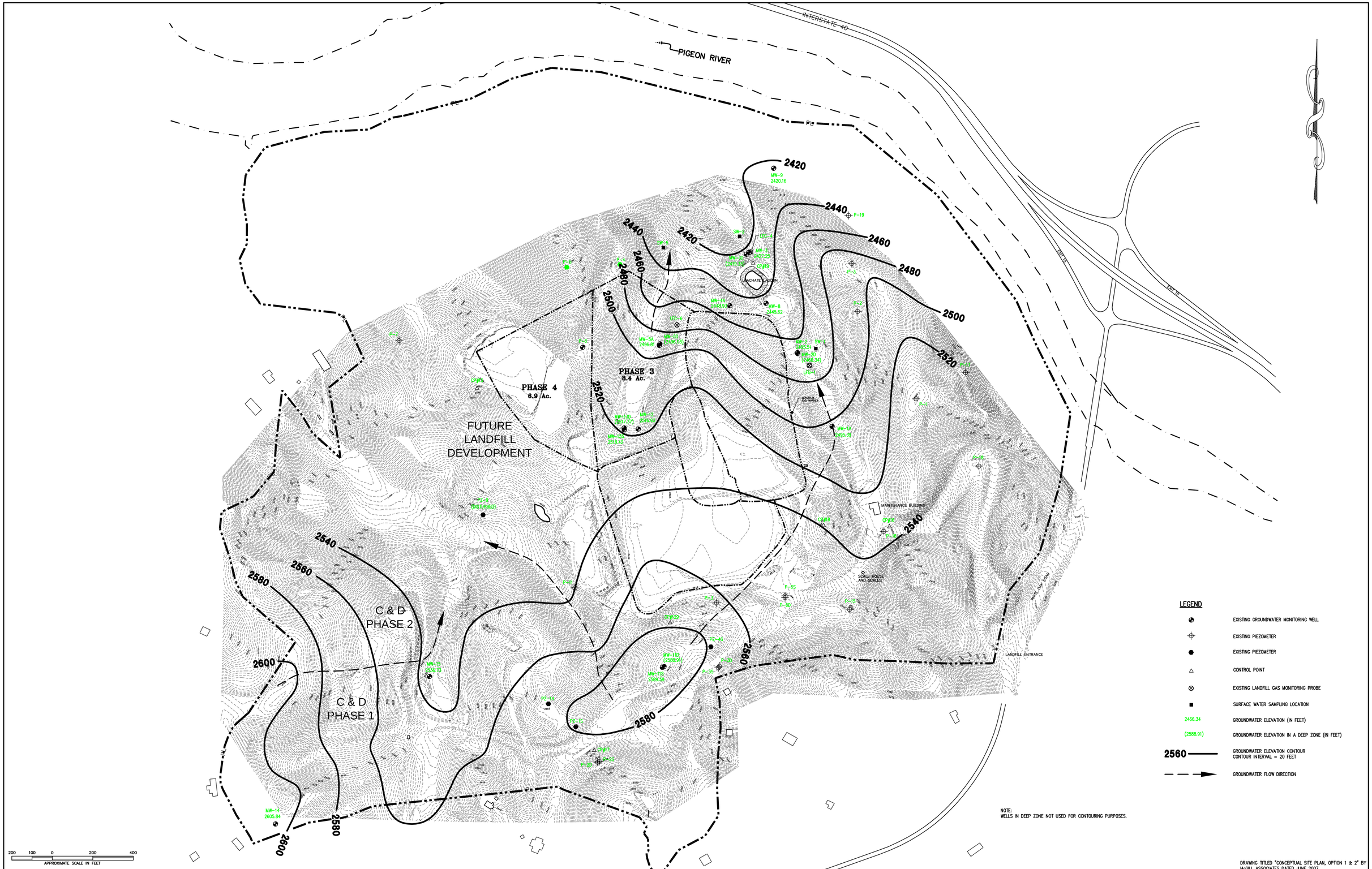


2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

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

DRAWN: AEH	DATE: 1-16-09	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
CHECKED: TJB	CAD: WHITEOAK05-SLM			1
APPROVED:	JOB NO: J08-1957-05			



NOTE:
WELLS IN DEEP ZONE NOT USED FOR CONTOURING PURPOSES.

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

REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	AEH
CHECKED:	IAI
APPROVED:	TJB

DATE:	1-16-09
CAD FILE:	HCWOLF04-POT102008
JOB NO:	J08-1957-05

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1265 FAX: (864)288-4430

GROUNDWATER ELEVATION CONTOUR MAP – 10/20/08
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 (9-24-1993)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	10	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	2	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	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 (9-28-1993)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT

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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 (10-1-1993)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	**1200**	**1300**	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	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 (10-4-1993)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	ND	ND	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT

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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 (4-25-1994)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	1400	920	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	11	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	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 (10-26-1994)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	1670	298	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	11	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT

Notes:
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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 (4-12-1995)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	747	201	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	6	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	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 (9-13-1995)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NA	NS	NS	**804**	**335**	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NA	NS	NS	NT	NT	NS	NS	NS	**8**	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NA	NS	NS	ND	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NA	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NT	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT

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White Oak GW Stats Second 2008.xls
(9-13-1995)

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-29-1996)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	586	162	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	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	NT	NT	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	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	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 GW Stats Second 2008.xls
(4-29-1996)

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (9-23-1996)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	**280**	**278**	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	**7**	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT

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White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-29-1997)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	**1800**	**200**	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	**160**	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	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 (9-4-1997)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	**400**	**500**	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	ND	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	NT	NT	NS	NS	NS	**13**	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT

Notes:
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Shaded cells indicated exceedances of MCLs.

White Oak GW Stats Second 2008.xls
(9-4-1997)

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-9-1998)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	2900	400	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	80	NT	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	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 GW Stats Second 2008.xls
(4-9-1998)

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (9-14-1998)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	6.5	6.4	6.6	6.2	6.2	7.5	5.2	6.1	5.8	6.6	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	69	50	55	110	78	120	32	60	79	160	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	14	15	16	17	15	14	16	14	16	17	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	3	NE	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NT
Total Arsenic (As)	µg/l	5	50	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NT
Total Barium (Ba)	µg/l	100	1000	NS	NS	NS	1200	100	100	ND	100	100	ND	300	1200	100	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	1	NE	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	1	50	NS	NS	NS	6	2	3	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	1	NE	NS	NS	NS	15	ND	ND	6	ND	1	ND	ND	ND	2	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	10	1000	NS	NS	NS	ND	ND	20	10	10	ND	ND	ND	10	ND	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	5	15	NS	NS	NS	ND	5	ND	ND	ND	ND	ND	ND	14	ND	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	5	50	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	1	18	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	1	NE	NS	NS	NS	ND	4	ND	ND	ND	ND	3	ND	ND	ND	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	23	7	9	ND	ND	8	ND	ND	16	6	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	30	ND	20	ND	ND	20	ND	ND	10	10	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT

Notes:
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White Oak GW Stats Second 2008.xls
(9-14-1998)

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-26-1999)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	5.9	5.5	5.7	6.4	6.4	7.2	4.5	5.2	6.4	6.7	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	71	59	55	110	80	130	38	59	99	150	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	13	15	14	13	13	14	11	13	15	11	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	5	NE	NS	NS	NS	ND	ND	ND	5	ND	ND	ND	7	ND	5	NS	NS	NS	NS	8
Total Arsenic (As)	µg/l	5	50	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	100	1000	NS	NS	NS	200	300	ND	ND	200	200	ND	200	200	200	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	1	NE	NS	NS	NS	2	2	2	2	1	2	2	2	ND	2	NS	NS	NS	NS	2
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	2	50	NS	NS	NS	15	18	3	2	17	20	3	3	27	2	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	2	NE	NS	NS	NS	ND	7	ND	7	10	8	ND	ND	16	3	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	10	1000	NS	NS	NS	ND	ND	20	ND	10	20	10	ND	ND	ND	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	5	15	NS	NS	NS	7	7	ND	5	ND	6	7	ND	ND	6	NS	NS	NS	NS	8
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	5	50	NS	NS	NS	ND	ND	7	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	2	18	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	2	NE	NS	NS	NS	ND	ND	2	ND	ND	ND	ND	ND	2	2	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	13	30	ND	3000	16	24	ND	ND	42	6	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	20	40	10	10	20	40	10	ND	30	200	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	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 (9-21-1999)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	5.1	5.2	5.3	6.5	6.2	6.8	6.2	6	5.8	5.9	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	75	55	58	88	79	110	36	59	100	160	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	14	13	13	15	14	17	15	14	14	15	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	10	NE	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	5	1000	NS	NS	NS	1000	170	160	79	190	350	74	170	230	160	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	2.2	ND	ND	ND	ND	2.1	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	6.3	ND	1.4	ND	1.9	3.7	1.1	ND	5.6	ND	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	5	50	NS	NS	NS	130	54	320	380	270	46	ND	5.5	62	8.8	NS	NS	NS	NS	29
Total Cobalt (Co)	µg/l	5	NE	NS	NS	NS	26	ND	ND	ND	8.9	18	ND	ND	27	ND	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	5	1000	NS	NS	NS	39	ND	15	ND	18	41	ND	ND	21	ND	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	ND	ND	ND	ND	ND	15	ND	ND	ND	10	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	5	100	NS	NS	NS	110	7.1	13	9	22	43	ND	7.8	31	7.7	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	66	ND	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	2	18	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	2	NE	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	130	130	22	7.1	20	56	ND	8.1	71	6.4	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	210	56	49	40	51	67	ND	12	51	41	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT

Notes:
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NT = Not Tested
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Shaded cells indicated exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-17-2000)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	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	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	NS	NS	NS	NS	NS	NT
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	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	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	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	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	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	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	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	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	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	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	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	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	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	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	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	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	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	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	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	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	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	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	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	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	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	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	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	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	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	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	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	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	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	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	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	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	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	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	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	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	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	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	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 (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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.7	5.5	5.2	6.3	NS	NS	NS	NS	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	72	NS	NS	69	55	51	89	85	89	31	49	100	130	NS	NS	NS	NS	NS
Temperature	°C (on-site)	-	NE	12	NS	NS	13	14	14	12	12	13	10	12	13	10	NS	NS	NS	NS	NS
Turbidity	NTU (on-site)	0.1	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Total Antimony (Sb)	µg/l	10	NE	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Total Arsenic (As)	µg/l	10	50	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Total Barium (Ba)	µg/l	5	1000	250	NS	NS	240	420	200	63	300	93	81	170	230	ND	NS	NS	NS	NS	NS
Total Beryllium (Be)	µg/l	2	NE	4.4	NS	NS	ND	2	ND	2.2	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Total Cadmium (Cd)	µg/l	1	5	2	NS	NS	ND	1.3	1.2	1.3	2.1	ND	ND	ND	5.4	ND	NS	NS	NS	NS	NS
Total Chromium (Cr)	µg/l	5	50	15	NS	NS	18	17	11	ND	26	5.4	ND	ND	50	ND	NS	NS	NS	NS	NS
Total Cobalt (Co)	µg/l	5	NE	ND	NS	NS	ND	8.2	5.4	ND	14	ND	ND	ND	16	ND	NS	NS	NS	NS	NS
Total Copper (Cu)	µg/l	5	1000	12	NS	NS	ND	ND	13	ND	27	ND	ND	ND	22	ND	NS	NS	NS	NS	NS
Total Lead (Pb)	µg/l	10	15	35	NS	NS	ND	ND	ND	ND	11	ND	10	ND	ND	ND	NS	NS	NS	NS	NS
Total Nickel (Ni)	µg/l	5	100	15	NS	NS	17	12	8.3	ND	24	6.7	ND	5.6	22	ND	NS	NS	NS	NS	NS
Total Selenium (Se)	µg/l	20	50	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Total Silver (Ag)	µg/l	2	18	3.7	NS	NS	ND	ND	ND	6.9	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Total Thallium (Tl)	µg/l	2	NE	2	NS	NS	ND	3	2	4	ND	2	ND	3	5	ND	NS	NS	NS	NS	NS
Total Vanadium (V)	µg/l	5	NE	17	NS	NS	19	32	21	ND	29	8.9	ND	ND	78	ND	NS	NS	NS	NS	NS
Total Zinc (Zn)	µg/l	10	2100	150	NS	NS	35	48	36	12	43	28	12	14	68	ND	NS	NS	NS	NS	NS
Acetone	µg/l	100	700	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Acrylonitrile	µg/l	200	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Benzene	µg/l	5	1	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Bromochloromethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Bromodichloromethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Bromoform	µg/l	5	0.19	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Carbon Disulfide	µg/l	100	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Carbon tetrachloride	µg/l	10	0.3	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Chlorobenzene (mono)	µg/l	5	50	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Chloroethane	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Chloroform	µg/l	5	0.19	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Dibromochloromethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Dibromomethane	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	µg/l	5	620	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	µg/l	5	75	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,1-Dichloroethane	µg/l	5	700	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,2-Dichloroethane	µg/l	5	0.38	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,2-Dichloropropane	µg/l	5	0.56	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Ethylbenzene	µg/l	5	29	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
2-Hexanone	µg/l	50	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Iodomethane	µg/l	10	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Styrene	µg/l	10	100	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Toluene	µg/l	5	1000	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	µg/l	5	200	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	µg/l	5	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Trichlorofluoromethane	µg/l	5	2100	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	µg/l	15	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Vinyl acetate	µg/l	50	NE	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Vinyl chloride	µg/l	10	0.015	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS
Xylene	µg/l	5	530	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NS

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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 (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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	5.9	6.8	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	14	14	NS	NS	NS	NS	NS	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	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	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	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	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	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	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	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	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	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	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	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	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	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	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	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	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	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	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	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	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NT	NT	NS	NS	NS	NS	NS	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	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	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	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NT	NT	NS	NS	NS	NS	NS	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	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	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	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT

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White Oak GW Stats Second 2008.xls
(6-26-2000)

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NT	NT	NS	NS	NS	NS	NS	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	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	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	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	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	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	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	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	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	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	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	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	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	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	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	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	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	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	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	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	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NT	NT	NS	NS	NS	NS	NS	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	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	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	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NT	NT	NS	NS	NS	NS	NS	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	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	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	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NT	NT	NS	NS	NS	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 (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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	**330**	**92**	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	**8.8**	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	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	NS	NS	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	NS	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	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
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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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.1	5.9	5.8	7	NS	NS	NS	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	20	60	NS	75	75	68	130	90	110	45	61	125	140	NS	NS	NS	NS	NT
Temperature	°C (on-site)	-	NE	15	15	NS	13	15	15	14	15	15	10	13	15	11	NS	NS	NS	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Barium (Ba)	µg/l	5	1000	1300	380	NS	180	330	120	80	290	360	80	140	970	130	NS	NS	NS	NS	ND
Total Beryllium (Be)	µg/l	2	NE	2.3	7	NS	ND	ND	ND	ND	ND	2.4	ND	ND	4.8	ND	NS	NS	NS	NS	ND
Total Cadmium (Cd)	µg/l	1	5	130	2	NS	ND	ND	ND	1.7	1.8	2.7	ND	ND	19	ND	NS	NS	NS	NS	ND
Total Chromium (Cr)	µg/l	5	50	130	ND	NS	11	8.4	ND	ND	20	27	ND	ND	160	ND	NS	NS	NS	NS	ND
Total Cobalt (Co)	µg/l	5	NE	54	ND	NS	ND	ND	ND	13	12	13	ND	ND	59	8.1	NS	NS	NS	NS	ND
Total Copper (Cu)	µg/l	5	1000	77	8.4	NS	ND	ND	5.4	ND	26	38	ND	ND	110	ND	NS	NS	NS	NS	ND
Total Lead (Pb)	µg/l	10	15	ND	59	NS	ND	ND	ND	ND	ND	18	ND	ND	2.5	ND	NS	NS	NS	NS	ND
Total Nickel (Ni)	µg/l	5	100	76	7.2	NS	9.6	5.3	ND	ND	18	28	ND	ND	6.1	7.3	NS	NS	NS	NS	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND
Total Thallium (Tl)	µg/l	2	NE	40	ND	NS	ND	ND	ND	ND	ND	ND	30	ND	ND	ND	NS	NS	NS	NS	ND
Total Vanadium (V)	µg/l	5	NE	250	1.4	NS	13	19	9.3	ND	24	41	ND	ND	230	8	NS	NS	NS	NS	ND
Total Zinc (Zn)	µg/l	10	2100	230	130	NS	12	24	18	17	33	75	ND	ND	200	2.9	NS	NS	NS	NS	24
Acetone	µg/l	100	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Benzene	µg/l	5	1	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromoform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloroethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
2-Hexanone	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Styrene	µg/l	10	100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Toluene	µg/l	5	1000	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	NT
Xylene	µg/l	5	530	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	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 (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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5.83	5.15	8.36	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	45	43	70	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12.9	13.5	14.9	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Total Antimony (Sb)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	11	ND	ND	NS	ND
Total Barium (Ba)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1800	4700	90	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4	5.3	ND	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10	8.9	ND	NS	ND
Total Chromium (Cr)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	51	66	5.4	NS	ND
Total Cobalt (Co)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	54	53	ND	NS	ND
Total Copper (Cu)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	35	44	ND	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	27	ND	ND	NS	ND
Total Nickel (Ni)	µg/l	5	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	97	59	ND	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Silver (Ag)	µg/l	2	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Thallium (Tl)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	160	170	6.4	NS	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	130	220	ND	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	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	NS	NT	NT	NT	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT

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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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5.98	5.12	7.72	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	39	46	50	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12	12.5	12.6	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Total Antimony (Sb)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	17	ND	ND	NS	ND
Total Barium (Ba)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3000	450	27	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.2	ND	ND	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16	ND	ND	NS	ND
Total Chromium (Cr)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	82	ND	ND	NS	ND
Total Cobalt (Co)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	87	ND	ND	NS	ND
Total Copper (Cu)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	47	ND	ND	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	43	ND	ND	NS	ND
Total Nickel (Ni)	µg/l	5	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	120	ND	ND	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Silver (Ag)	µg/l	2	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Thallium (Tl)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	3.1
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	250	9.2	ND	NS	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	200	17	ND	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	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	NS	NT	NT	NT	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	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 GW Stats Second 2008.xls
(10-29-2001)

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.57	5.73	6.85	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	40	51	41	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	13.8	12.6	13	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Total Antimony (Sb)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Barium (Ba)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	980	360	41	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.5	ND	ND	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3.9	ND	ND	NS	ND
Total Chromium (Cr)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	21	ND	ND	NS	ND
Total Cobalt (Co)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	28	5.7	ND	NS	ND
Total Copper (Cu)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16	ND	ND	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	26	ND	ND	NS	ND
Total Nickel (Ni)	µg/l	5	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	49	5.5	ND	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Silver (Ag)	µg/l	2	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Thallium (Tl)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	ND
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	83	12	ND	NS	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	62	16	11	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	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	NS	NT	NT	NT	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	NT

Notes:
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NP = Not Present during sampling event
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White Oak GW Stats Second 2008.xls
(1-30-2002)

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	ND	NS	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2.6**	NS	**1300**	NS	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**4300**	NS	**2.5**	NS	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5.1**	NS	**15**	NS	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**11**	NS	**17**	NS	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**200**	NS	**58**	NS	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**180**	NS	**58**	NS	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	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	NS	NT	NS	NT	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	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 (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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	4.77	5.38	6.01	5.87	5.37	5.2	6.16	NS	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	21	42	NS	75	82	84	101	93	94	41	51	125	109	38	59	41	NS	NT
Temperature	°C (on-site)	-	NE	15.9	17.4	NS	15.3	15.7	16.8	16.2	13.2	16.3	14.6	16	17.3	11	14.1	14.2	14.9	NS	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NS	NT	NT	NT	NT	NT	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	ND	ND	11	ND	ND	ND	ND	NS	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Total Barium (Ba)	µg/l	5	1000	1300	41	NS	ND	ND	160	23	190	460	180	250	1400	110	540	820	38	NS	ND
Total Beryllium (Be)	µg/l	2	NE	2.1	ND	NS	ND	ND	ND	ND	ND	2.5	ND	ND	4.5	ND	2.1	2.2	ND	NS	ND
Total Cadmium (Cd)	µg/l	10	5	13	ND	NS	ND	ND	ND	4	ND	5.5	1.2	ND	19	ND	2.3	2.2	ND	NS	ND
Total Chromium (Cr)	µg/l	5	50	170	ND	NS	ND	ND	5.7	7	10	56	13	7.1	180	ND	9.2	12	ND	NS	ND
Total Cobalt (Co)	µg/l	5	NE	58	ND	NS	ND	ND	ND	18	8.2	21	ND	ND	82	6.8	13	12	ND	NS	ND
Total Copper (Cu)	µg/l	2	1000	69	ND	NS	ND	ND	ND	ND	13	68	4.4	5.1	120	4.7	5.6	8.4	ND	NS	150
Total Lead (Pb)	µg/l	10	15	13	ND	NS	ND	ND	ND	ND	ND	13	ND	ND	29	ND	14	10	ND	NS	ND
Total Nickel (Ni)	µg/l	5	100	74	ND	NS	ND	ND	ND	6.2	9.2	44	7.1	8.7	68	6.9	20	13	ND	NS	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND	NS	ND
Total Vanadium (V)	µg/l	5	NE	240	ND	NS	ND	ND	11	21	14	69	17	12	260	ND	37	37	ND	NS	ND
Total Zinc (Zn)	µg/l	10	2100	230	16	NS	ND	ND	13	33	38	120	37	31	230	52	51	79	ND	NS	15
Acetone	µg/l	100	700	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	NS	NT
Benzene	µg/l	5	1	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	NS	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	NS	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	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	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	NT	NT	NT	NT	NT	NS	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	NS	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	NS	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	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	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	NT	NT	NT	NT	NT	NS	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	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	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	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	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	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	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	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	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	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	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	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	NT	NT	NT	NT	NT	NS	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	NS	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	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	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	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	NT	NT	NT	NT	NT	NS	NT
Styrene	µg/l	10	100	NT	NT	NS	NT	NT	NT	NT	NT	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	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	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	NT	NT	NT	NT	NT	NS	NT
Toluene	µg/l	5	1000	NT	NT	NS	NT	NT	NT	NT	NT	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	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	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	NT	NT	NT	NT	NT	NS	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	NS	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	NS	NT
Xylene	µg/l	5	530	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NT

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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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	6.1	6.5	6.37	5.91	6.7	6.39	6.86	6.65	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	22	59	52	71	85	82	117	101	92	40	72	130	134	44	72	60	97	NT
Temperature	°C (on-site)	-	NE	15.1	13.5	13.7	13.5	13.9	14	15.8	14.6	15.1	18.6	15.8	17.7	16	14.9	15.7	15.3	16.6	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	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	ND	ND	30	6.5	ND	68	ND
Total Barium (Ba)	µg/l	5	1000	330	500	750	4200	120	230	93	410	910	130	320	1400	140	8600	1600	46	11000	ND
Total Beryllium (Be)	µg/l	2	NE	ND	7	2.1	5.1	ND	ND	ND	ND	8.5	ND	ND	4.7	ND	13	3.6	ND	95	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	4.2	21	ND	10	ND	2.3	4.2	ND	ND	19	ND	27	5.4	ND	180	ND
Total Chromium (Cr)	µg/l	5	50	33	5.4	33	510	ND	5.2	ND	37	36	5.5	9.1	230	ND	180	52	ND	770	ND
Total Cobalt (Co)	µg/l	5	NE	13	5.4	16	100	ND	16	7.4	21	19	ND	ND	85	7.7	200	30	ND	560	ND
Total Copper (Cu)	µg/l	2	1000	20	10	31	220	ND	ND	2.6	42	88	3.3	7.4	150	6.8	100	31	ND	450	ND
Total Lead (Pb)	µg/l	10	15	ND	76	29	ND	ND	ND	ND	ND	150	ND	ND	20	ND	81	ND	ND	740	ND
Total Nickel (Ni)	µg/l	5	100	16	6.8	31	400	ND	ND	ND	27	40	ND	6.5	78	5.6	180	27	ND	430	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	2	NE	ND	ND	ND	ND	ND	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	8.7	17	310	8.8	530	130	ND	1000	ND
Total Zinc (Zn)	µg/l	10	2100	57	120	110	580	ND	20	ND	56	250	17	20	280	43	510	110	15	4800	2000
Acetone	µg/l	100	700	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Benzene	µg/l	5	1	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NT	NT	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	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	NT	NT	NT	NT	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Chloroform	µg/l	5	0.19	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	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	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	NT	NT	NT	NT	NT
Dibromomethane	µg/l	10	NE	NT	NT	NT	NT	NT	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	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	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	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	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	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	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	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	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	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	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	NT	NT	NT	NT	NT
Ethylbenzene	µg/l	5	29	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Iodomethane	µg/l	10	NE	NT	NT	NT	NT	NT	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	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	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	NT	NT	NT	NT	NT
Styrene	µg/l	10	100	NT	NT	NT	NT	NT	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	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	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	NT	NT	NT	NT	NT
Toluene	µg/l	5	1000	NT	NT	NT	NT	NT	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	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	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	NT	NT	NT	NT	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Xylene	µg/l	5	530	NT	NT	NT	NT	NT	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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	4.94	5.7	5.85	5.73	NT	NT	NT	6.75	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	29	43	55	91	110	99	150	114	100	51	78	138	129	NT	NT	NT	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	15	14.9	13	NT	NT	NT	18.4	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	NT	NT	NT	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	24	ND
Total Barium (Ba)	µg/l	5	1000	600	66	220	1800	160	140	110	92	360	95	140	800	140	NT	NT	NT	2800	ND
Total Beryllium (Be)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	2.2	ND	NT	NT	NT	20	ND
Total Cadmium (Cd)	µg/l	1	5	3.6	ND	ND	6	ND	ND	ND	ND	2.9	ND	ND	16	ND	NT	NT	NT	20	ND
Total Chromium (Cr)	µg/l	5	50	ND	ND	ND	89	ND	ND	ND	ND	ND	ND	ND	110	ND	NT	NT	NT	27	ND
Total Cobalt (Co)	µg/l	5	NE	21	ND	ND	37	ND	ND	6.9	ND	17	ND	ND	50	ND	NT	NT	NT	81	ND
Total Copper (Cu)	µg/l	2	1000	24	ND	2.6	40	ND	ND	ND	ND	28	ND	ND	94	ND	NT	NT	NT	71	ND
Total Lead (Pb)	µg/l	10	15	ND	ND	ND	ND	ND	ND	ND	ND	25	ND	ND	ND	ND	NT	NT	NT	300	ND
Total Nickel (Ni)	µg/l	5	100	ND	ND	ND	90	ND	ND	ND	ND	ND	ND	ND	26	ND	NT	NT	NT	70	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND
Total Thallium (Tl)	µg/l	1	NE	ND	ND	ND	1.6	ND	ND	ND	ND	1.4	ND	ND	ND	1	NT	NT	NT	15	ND
Total Vanadium (V)	µg/l	5	NE	89	ND	9.6	170	6.8	6.8	ND	ND	37	ND	ND	230	ND	NT	NT	NT	130	ND
Total Zinc (Zn)	µg/l	10	2100	86	14	31	160	16	ND	ND	ND	81	ND	ND	190	240	NT	NT	NT	800	ND
Acetone	µg/l	100	700	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Benzene	µg/l	5	1	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NT	NT	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	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	NT	NT	NT	NT	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Chloroform	µg/l	5	0.19	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	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	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	NT	NT	NT	NT	NT
Dibromomethane	µg/l	10	NE	NT	NT	NT	NT	NT	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	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	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	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	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	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	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	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	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	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	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	NT	NT	NT	NT	NT
Ethylbenzene	µg/l	5	29	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Iodomethane	µg/l	10	NE	NT	NT	NT	NT	NT	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	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	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	NT	NT	NT	NT	NT
Styrene	µg/l	10	100	NT	NT	NT	NT	NT	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	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	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	NT	NT	NT	NT	NT
Toluene	µg/l	5	1000	NT	NT	NT	NT	NT	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	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	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	NT	NT	NT	NT	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT
Xylene	µg/l	5	530	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

Notes:

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White Oak GW Stats Second 2008.xls
(4-28-2003)

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	4.82	5.81	6.18	6.54	5.59	5.71	6.5	6.46	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	29	39	58	82	119	110	140	115	105	40	80	149	112	50	88	51	120	NT
Temperature	°C (on-site)	-	NE	15	15.1	14.9	15.8	15.9	16.7	15	14	17.5	15	14	16.3	14	15	16.2	17.3	16	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	NT	ND	ND	ND	ND	ND	ND	6.2	ND	5.3	ND	6.3	ND	ND	81	ND
Total Barium (Ba)	µg/l	5	1000	320	100	NT	210	310	130	95	110	1200	580	190	270	130	920	320	29	4900	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	NT	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	33	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	NT	ND	ND	ND	ND	ND	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	83	ND	4.6	ND	22	3.9	ND	140	ND
Total Cobalt (Co)	µg/l	5	NE	9	ND	NT	ND	ND	ND	5.7	ND	52	11	ND	8.8	ND	28	ND	ND	110	ND
Total Copper (Cu)	µg/l	2	1000	18	ND	NT	ND	2.3	2.6	ND	3	85	26	ND	4.4	2.9	16	2.7	ND	150	ND
Total Lead (Pb)	µg/l	5	15	8.7	12	NT	ND	ND	ND	ND	ND	39	25	ND	7.4	ND	29	ND	ND	640	ND
Total Nickel (Ni)	µg/l	5	100	19	ND	NT	6.9	6.9	ND	ND	ND	48	22	ND	ND	7.7	34	ND	ND	190	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	NT	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	54	ND	NT	6.6	16	ND	ND	ND	92	82	5.9	14	ND	82	13	ND	200	ND
Total Zinc (Zn)	µg/l	10	2100	55	22	NT	17	26	10	ND	ND	140	100	12	26	64	61	24	13	1800	ND
Acetone	µg/l	10	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	28	15	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	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	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	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 GW Stats Second 2008.xls
(10-30-2003)

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.39	6.01	5.17	6.2	6.39	5.64	6.67	6.83	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	25	31	40	67	135	120	115	100	100	42	60	115	103	39	49	35	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	14.1	15	14.9	11.5	14	13.1	14.9	13.8	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.4	ND	9.2	ND	ND	30	ND
Total Barium (Ba)	µg/l	5	1000	320	56	120	410	460	170	140	210	62	85	170	940	150	1600	860	36	2000	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	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	ND	ND	8.8	ND	3.7	1.2	ND	8.9	ND
Total Chromium (Cr)	µg/l	2	50	33	ND	2.1	45	13	ND	ND	11	3.5	ND	2.9	190	ND	50	12	ND	68	ND
Total Cobalt (Co)	µg/l	5	NE	9.5	ND	ND	7.7	5.2	ND	13	6.4	ND	ND	ND	43	ND	47	7.4	ND	50	ND
Total Copper (Cu)	µg/l	2	1000	18	ND	2.8	12	5.3	2.3	4.3	13	7.4	ND	2.2	100	2.3	27	8	ND	89	ND
Total Lead (Pb)	µg/l	5	15	7.2	7	5.2	6.4	5.4	ND	ND	ND	12	ND	ND	39	ND	43	12	ND	250	ND
Total Nickel (Ni)	µg/l	5	100	20	ND	ND	30	7.3	ND	ND	12	5.3	ND	ND	49	12	36	8.4	ND	110	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	5	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	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	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	55	ND	ND	45	25	ND	ND	13	5.1	ND	5.6	240	ND	140	33	ND	88	ND
Total Zinc (Zn)	µg/l	10	2100	55	10	ND	44	30	11	14	19	23	ND	ND	220	160	120	36	15	770	11
Acetone	µg/l	10	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	NT
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	NT
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	NT
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND	NT
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	NT
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	NT
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND	NT
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND	NT
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	NT
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND	NT
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND	NT
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND	NT
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	NT
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	NT
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT

Notes:
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White Oak GW Stats Second 2008.xls
(4-20-2004)

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.38	5.55	5.57	6.05	6.65	5.46	6.58	7.12	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	29	49	62	96	290	302	196	148	111	59	93	198	90	69	69	50	134	NT
Temperature	°C (on-site)	-	NE	14.3	16.7	14	13	14.7	14.3	15	14.5	14.2	16.5	15.5	14.6	15	15.1	15.5	16.7	17	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	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	100	320	900	110	2700	1700	29	4900	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	1.4	1.2	ND	28	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	ND
Total Chromium (Cr)	µg/l	2	50	21	ND	2.8	16	2	ND	ND	ND	ND	ND	5.5	120	ND	14	21	ND	140	ND
Total Cobalt (Co)	µg/l	5	NE	6.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	31	ND	42	12	ND	120	ND
Total Copper (Cu)	µg/l	2	1000	11	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	63	ND	11	14	ND	140	ND
Total Lead (Pb)	µg/l	5	15	7.2	5.6	5.7	ND	ND	ND	ND	ND	ND	ND	5.6	24	ND	18	16	ND	430	ND
Total Nickel (Ni)	µg/l	5	100	12	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	35	ND	23	14	ND	160	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	41	ND	ND	18	ND	ND	ND	ND	ND	ND	10	160	ND	46	59	ND	210	ND
Total Zinc (Zn)	µg/l	10	2100	29	ND	ND	17	ND	14	ND	12	15	11	11	70	55	27	31	15	1200	ND
Acetone	µg/l	10	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	NE	ND	24	ND	ND	ND	ND	ND	ND	15	14	19	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	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	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	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 (4-18-2005)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.01	5.2	5.6	5.6	5.72	5.73	6.64	6.85	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	25	40	42	78	330	161	171	139	95	49	90	149	149	125	51	41	138	NT
Temperature	°C (on-site)	-	NE	14.2	15.6	15	13.5	15	17.7	13	13.5	16.2	13	15	14.1	14.1	12	13	14.5	16.4	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	12	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	5.2	ND	21	ND	ND	65	ND
Total Barium (Ba)	µg/l	5	1000	480	55	160	7200	610	180	160	140	12	78	150	1000	140	2000	1000	31	3700	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	7.2	ND	ND	ND	ND	ND	ND	ND	3.8	ND	3	1.5	ND	26	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	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	ND	2.4	210	ND	36	18	ND	100	ND
Total Cobalt (Co)	µg/l	5	NE	12	ND	ND	110	ND	ND	ND	ND	ND	ND	ND	36	ND	82	9.3	ND	70	ND
Total Copper (Cu)	µg/l	2	1000	29	ND	ND	240	ND	ND	ND	3.8	ND	ND	ND	120	ND	25	12	ND	130	ND
Total Lead (Pb)	µg/l	5	15	13	8	5.2	73	ND	ND	ND	ND	ND	ND	ND	39	ND	40	13	ND	380	ND
Total Nickel (Ni)	µg/l	5	100	29	9.6	17	460	ND	ND	5.5	5.4	ND	ND	ND	59	ND	61	12	ND	170	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	85	ND	ND	680	5.4	ND	ND	ND	ND	ND	ND	240	ND	100	44	ND	110	ND
Total Zinc (Zn)	µg/l	10	2100	83	ND	ND	780	ND	30	13	10	ND	ND	13	240	200	96	38	14	1200	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	53	17	ND	ND	ND	ND	16	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	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 (10-13-2005)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.61	6.49	6.08	6.35	5.75	6.24	6.35	6.72	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	21	35	40	85	580	201	185	160	102	50	82	180	145	75	50	40	52	NT
Temperature	°C (on-site)	-	NE	13.2	14	13.3	13.3	14.9	14.3	16.5	15.5	15.3	14.1	16.5	16.5	16.3	15.1	16.2	16.1	16.8	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	53	9.9	ND	44	ND
Total Barium (Ba)	µg/l	5	1000	770	37	160	1700	870	250	160	140	27	110	290	810	150	5500	4400	27	2700	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	3.4	ND	11	9.5	ND	21	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	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	5.3	6.8	150	ND	130	130	ND	88	ND
Total Cobalt (Co)	µg/l	5	NE	21	ND	ND	32	ND	ND	5.1	ND	ND	ND	ND	29	ND	150	48	ND	56	ND
Total Copper (Cu)	µg/l	2	1000	31	2.6	3.5	70	ND	ND	ND	ND	3	4.6	3.8	82	ND	75	72	ND	96	ND
Total Lead (Pb)	µg/l	5	15	14	6.9	ND	20	ND	ND	ND	ND	ND	ND	ND	29	ND	110	62	ND	290	ND
Total Nickel (Ni)	µg/l	5	100	29	ND	ND	160	6.8	ND	ND	6.1	ND	ND	ND	46	ND	160	72	ND	100	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	82	ND	ND	210	8.9	ND	ND	ND	ND	ND	5.7	170	ND	330	310	ND	82	ND
Total Zinc (Zn)	µg/l	10	2100	92	13	12	230	19	25	ND	ND	14	23	36	170	81	330	280	11	800	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	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 (4-25-2006)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.16	5.78	5.56	6.02	5.97	5.77	6.55	5.83	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	53	48	52	106	105	383	301	236	136	90	101	251	157	170	70	53	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	12.1	13.5	14.8	12.2	12.5	12.9	14.1	12.9	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	42	ND
Total Barium (Ba)	µg/l	500	2000	650	ND	ND	ND	1100	ND	ND	ND	ND	820	ND	750	ND	ND	1700	ND	2700	ND
Total Beryllium (Be)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	10	50	65	ND	16	ND	ND	ND	ND	ND	16	200	ND	100	ND	ND	20	ND	93	ND
Total Cobalt (Co)	µg/l	10	NE	16	ND	ND	ND	ND	ND	ND	ND	ND	22	ND	25	ND	170	12	ND	57	ND
Total Copper (Cu)	µg/l	200	1000	ND	ND	ND	ND	ND	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	34	ND	19	ND	ND	18	ND	300	ND
Total Nickel (Ni)	µg/l	50	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	40	NE	110	ND	ND	ND	ND	ND	ND	ND	ND	160	ND	120	ND	ND	54	ND	85	ND
Total Zinc (Zn)	µg/l	50	1050	130	ND	88	ND	ND	ND	ND	ND	110	180	ND	120	120	ND	56	ND	780	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	0.56	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	700	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chloroform	µg/l	5	70	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	550	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	NS	NS	5.61	5.96	6.07	5.73	6.83	5.97	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	229	48	53	108	876	564	149	200	12.8	NS	NS	330	229	142	71	52	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	NS	NS	13.3	12.7	13.6	13.5	13.5	14.9	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	11	25	ND	13	ND
Total Barium (Ba)	µg/l	5	2000	410	22	180	470	1100	ND	ND	ND	160	NS	NS	ND	ND	1800	1400	ND	650	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	2.9	2.4	ND	5.7	ND
Total Cadmium (Cd)	µg/l	1	1.75	3.8	ND	ND	ND	ND	ND	ND	ND	1.5	NS	NS	ND	ND	4.6	4.7	ND	5.2	ND
Total Chromium (Cr)	µg/l	5	50	50	ND	11	24	ND	ND	ND	ND	17	NS	NS	ND	ND	43	31	ND	27	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	13	ND	ND	ND
Total Copper (Cu)	µg/l	5	1000	26	ND	ND	9.6	ND	ND	ND	ND	20	NS	NS	ND	ND	ND	ND	ND	25	ND
Total Lead (Pb)	µg/l	5	15	20	ND	ND	ND	ND	ND	ND	ND	32	NS	NS	ND	ND	30	37	ND	89	ND
Total Nickel (Ni)	µg/l	5	100	22	ND	8.3	25	ND	ND	ND	ND	13	NS	NS	ND	ND	ND	ND	ND	24	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	79	ND	ND	28	ND	ND	ND	ND	23	NS	NS	ND	ND	120	100	ND	30	ND
Total Zinc (Zn)	µg/l	10	1050	74	ND	20	37	ND	ND	ND	ND	55	NS	NS	ND	82	110	75	ND	200	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	5	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Chloroethane	µg/l	10	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Chloroform	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methylchloride)	µg/l	5	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	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	NS	NS	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	NS	NS	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	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	NS	NS	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	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	NS	NS	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	NS	NS	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	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	NS	NS	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	NS	NS	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	5	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	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	NS	NS	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	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	NS	NS	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	NS	NS	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	10	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	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	NS	NS	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	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 (4-25-2007)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.22	5.84	5.54	6.26	5.6	5.69	6.68	9.08	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	31	50	54	105	1540	757	391	312	134	139	95	336	238	274	76	50	46	NT
Temperature	°C (on-site)	-	NE	13.4	14.2	14	13	14	14.6	14	13	15.7	12	13.5	15.4	12	12	12	12.4	12.5	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	280	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND
Total Barium (Ba)	µg/l	100	2000	290	ND	200	240	1300	1500	130	180	ND	240	250	ND	160	160	120	ND	600	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	10	50	20	ND	ND	16	ND	410	ND	ND	ND	31	ND	ND	ND	ND	ND	ND	17	ND
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	ND	ND	260	ND	ND	ND	ND	10	ND	ND	92	ND	ND	ND	ND
Total Copper (Cu)	µg/l	10	1000	15	ND	ND	ND	ND	330	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Total Selenium (Se)	µg/l	10	50	12	ND	ND	ND	ND	460	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	25	NE	43	ND	ND	ND	ND	300	ND	ND	ND	33	ND	ND	ND	ND	ND	ND	26	ND
Total Zinc (Zn)	µg/l	10	1050	55	21	30	30	22	830	22	15	10	39	21	12	74	37	20	12	200	12
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	5	0.56	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	10	700	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chloroform	µg/l	5	70	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	5	550	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	10	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	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 (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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.58	5.96	5.5	6.2	6	5.7	6.56	5.9	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	28	61	45	94	1475	911	346	300	132	84	105	543	351	146	76	53	36	NT
Temperature	°C (on-site)	-	NE	13.8	16	16.1	14.8	17.5	17.6	17.5	17.2	14.8	19.2	18.6	15.6	12.5	17.2	16.9	16.9	17.2	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	42.8	11.4	ND	21.4	ND
Total Barium (Ba)	µg/l	5	2000	501	31.5	223	198	1350	591	184	208	62.4	86.7	149	516	201	2000	1400	30.1	872	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	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	ND	1.7	ND	ND	ND
Total Chromium (Cr)	µg/l	5	50	40.9	ND	11.9	10.9	7.8	ND	ND	ND	5.1	ND	ND	75.5	ND	40.7	52.3	ND	33.7	ND
Total Cobalt (Co)	µg/l	5	NE	16.8	ND	ND	ND	10.6	ND	ND	ND	ND	ND	ND	ND	ND	147	102	ND	17.6	ND
Total Copper (Cu)	µg/l	5	1000	29.2	ND	ND	ND	ND	ND	ND	ND	6.3	ND	ND	40.3	ND	42.2	35.6	ND	47.4	ND
Total Lead (Pb)	µg/l	5	15	17.5	8.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.3	ND	46.5	23.1	ND	123	ND
Total Nickel (Ni)	µg/l	5	100	24	ND	8	8.4	13.8	ND	5.8	9.8	ND	ND	ND	20.2	ND	73.1	30.3	ND	36.2	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.5	NE	11.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.5	ND	12.3	10.5	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	89	ND	8.8	14.7	20	ND	ND	ND	8.6	ND	ND	103	ND	176	146	ND	48.2	ND
Total Zinc (Zn)	µg/l	10	1050	86	ND	66.2	14	37.4	33.3	12	ND	11.6	ND	14.2	91.1	66.9	169	148	ND	336	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.32	6.04	5.56	6.42	5.86	6.01	6.51	6.69	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	25	49	49	102	1546	946	411	318	124	239	103	481	402	244	68	46	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	16	15.7	14.8	12.8	13.5	13.9	12.9	14.1	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.2	ND	ND	10.2	ND
Total Barium (Ba)	µg/l	5	2000	194	30.8	253	168	1230	661	216	202	61.8	257	256	151	185	171	169	24.1	361	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	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	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	ND	ND	7.3	ND	ND	ND	ND	14.9	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5	ND	ND	ND	115	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	ND	ND	ND	ND	ND	17	ND
Total Lead (Pb)	µg/l	5	15	ND	ND	8.4	ND	ND	ND	ND	ND	5.8	ND	ND	ND	ND	ND	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	6.2	ND	7.2	17.2	ND	ND	19	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	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	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	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	ND	8.6	10	ND	7.2	6.1	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	27.9	22.2	38.8	123	32.7	12.1	ND	138	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
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White Oak GW Stats Second 2008.xls
(04-23-2008)

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	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	5.0	5.4	5.6	6.3	5.8	5.5	6.2	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	84.0	125.0	621.0	429	145	67.0	53.0	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	15.0	14.0	14.5	12.7	14.1	13.6	14.5	16.5	NT
Turbidity	NTU (on-site)	0.1	NE	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16.2	ND	ND	6.6	ND
Total Barium (Ba)	µg/l	5	2000	474	66.0	313	224	1210	894	164	216	41.1	83.8	205	182	244	747	852	26.4	245	ND
Total Beryllium (Be)	µg/l	1	NE	ND	1.2	ND	ND	ND	ND	ND	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	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	ND	ND	6.6	9.1	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	8.8	8.0	ND	ND	41.7	21.8	6.6	18.4	ND
Total Copper (Cu)	µg/l	5	1000	26.5	ND	8.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.7	8.1	ND	9.7	ND
Total Lead (Pb)	µg/l	5	15	ND	13.5	7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.2	5.1	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	5.2	ND	6.3	14.8	6.2	ND	8.5	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	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	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	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	ND	ND	31.6	30.2	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	ND	ND	17.4	86.2	24.6	22.4	ND	71.5	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	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	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	ND	ND	ND	ND	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	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	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	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	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	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	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	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	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	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	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	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	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	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	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	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	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	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.

APPENDIX B

Summary Table of Surface Water Analytical Results

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (9-14-1998)

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; >8.5	7	7.6	7.6	6.4	NS	NS	NS	7.2	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	80	75	78	120	NS	NS	NS	2700	NS
Temperature	°C (on-site)	-	29	16	16	21	15	NS	NS	NS	18	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NS	NS	NS	NT	NS
Nitrate as N	mg/l	0.1	10	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	0.31	NS
Nitrite as N	mg/l	0.1	1	NT	NT	NT	NT	NS	NS	NS	NT	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NS	NS	NS	79	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	79	NS
Sulfate	mg/l	500	250	NT	NT	NT	NT	NS	NS	NS	NT	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NS	NS	NS	120	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NS	NS	NS	360	NS
Total Dissolved Solids	mg/l	20	1000	NT	NT	NT	NT	NS	NS	NS	1600	NS
Cyanide	µg/l	2	70	NT	NT	NT	NT	NS	NS	NS	ND	NS
Total Antimony (Sb)	µg/l	30	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Arsenic (As)	µg/l	10	50	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Barium (Ba)	µg/l	500	NE	100	ND	ND	ND	NS	NS	NS	400	NS
Total Beryllium (Be)	µg/l	2	6.5	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Cadmium (Cd)	µg/l	1	2	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Chromium (Cr)	µg/l	10	50	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Cobalt (Co)	µg/l	10	NE	2	ND	ND	2	NS	NS	NS	NT	NS
Total Copper (Cu)	µg/l	200	NE	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 Magnesium (Mg)	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Silver (Ag)	µg/l	10	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Vanadium (V)	µg/l	40	NE	5	ND	ND	ND	NS	NS	NS	NT	NS
Total Zinc (Zn)	µg/l	50	NE	10	20	ND	ND	NS	NS	NS	50	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	NT	NS	NS	NS	ND	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
Bromofrom	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	0.3	NT	NT	NT	NT	NS	NS	NS	NT	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	NT	NT	NT	NT	NS	NS	NS	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NT	NS	NS	NS	NT	NS
Toluene	µg/l	5	1000	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	NT	NT	NT	NT	NS	NS	NS	NT	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	NT	NT	NT	NT	NS	NS	NS	NT	NS
Xylene	µg/l	5	530	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.
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
Surface Water Sampling Event (4-26-1999)

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; >8.5	6	6.8	6.9	6	NS	NS	NS	NT	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	80	72	75	50	NS	NS	NS	NT	NS
Temperature	°C (on-site)	-	29	12	13	17	14	NS	NS	NS	NT	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NS	NS	NS	NT	NS
Nitrate as N	mg/l	0.1	10	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	ND	NS
Nitrite as N	mg/l	0.1	1	NT	NT	NT	NT	NS	NS	NS	NT	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NS	NS	NS	90	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	90	NS
Sulfate	mg/l	500	250	NT	NT	NT	NT	NS	NS	NS	NT	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NS	NS	NS	100	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NS	NS	NS	310	NS
Total Dissolved Solids	mg/l	20	1000	NT	NT	NT	NT	NS	NS	NS	1200	NS
Cyanide	µg/l	2	70	NT	NT	NT	NT	NS	NS	NS	ND	NS
Total Antimony (Sb)	µg/l	30	NE	11	ND	5	6	NS	NS	NS	ND	NS
Total Arsenic (As)	µg/l	10	50	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Barium (Ba)	µg/l	500	NE	100	ND	100	ND	NS	NS	NS	300	NS
Total Beryllium (Be)	µg/l	2	6.5	20	2	2	2	NS	NS	NS	ND	NS
Total Cadmium (Cd)	µg/l	1	2	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Chromium (Cr)	µg/l	10	50	3	ND	ND	3	NS	NS	NS	6	NS
Total Cobalt (Co)	µg/l	10	NE	ND	ND	ND	2	NS	NS	NS	ND	NS
Total Copper (Cu)	µg/l	200	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Lead (Pb)	µg/l	10	25	6	5	6	ND	NS	NS	NS	ND	NS
Total Magnesium (Mg)	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	63000	NS
Total Nickel (Ni)	µg/l	50	88	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Selenium (Se)	µg/l	20	5	ND	ND	5	ND	NS	NS	NS	8	NS
Total Silver (Ag)	µg/l	10	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Vanadium (V)	µg/l	40	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Zinc (Zn)	µg/l	50	NE	10	20	ND	ND	NS	NS	NS	ND	NS
Mercury	µg/l	0.2	0.012	ND	ND	NT	NT	NS	NS	NS	ND	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
Bromofrom	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	0.3	NT	NT	NT	NT	NS	NS	NS	NT	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	NT	NT	NT	NT	NS	NS	NS	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NT	NS	NS	NS	NT	NS
Toluene	µg/l	5	1000	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	NT	NT	NT	NT	NS	NS	NS	NT	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	NT	NT	NT	NT	NS	NS	NS	NT	NS
Xylene	µg/l	5	530	NT	NT	NT	NT	NT	NT	NT	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.
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
Surface Water Sampling Event (9-21-1999)

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; >8.5	6.6	6.7	6.4	5.3	NS	NS	NS	NT	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	88	82	89	55	NS	NS	NS	NT	NS
Temperature	°C (on-site)	-	29	14	16	16	12	NS	NS	NS	NT	NS
Turbidity	NTU (on-site)	0.1	50	NT	NT	NT	NT	NS	NS	NS	NT	NS
Nitrate as N	mg/l	0.1	10	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	ND	NS
Nitrite as N	mg/l	0.1	1	NT	NT	NT	NT	NS	NS	NS	NT	NS
Nitrogen	mg/l	0.2	NE	NT	NT	NT	NT	NS	NS	NS	41	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	41	NS
Sulfate	mg/l	500	250	NT	NT	NT	NT	NS	NS	NS	NT	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NS	NS	NS	3500	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NS	NS	NS	600	NS
Total Dissolved Solids	mg/l	20	1000	NT	NT	NT	NT	NS	NS	NS	1900	NS
Cyanide	µg/l	2	70	NT	NT	NT	NT	NS	NS	NS	NT	NS
Total Aluminum (Al)	µg/l	250	NE	NT	NT	NT	NT	NS	NS	NS	1700	NS
Total Antimony (Sb)	µg/l	30	50	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Arsenic (As)	µg/l	10	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Barium (Ba)	µg/l	500	6.5	88	67	98	76	NS	NS	NS	180	NS
Total Beryllium (Be)	µg/l	2	2	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Cadmium (Cd)	µg/l	1	50	ND	1.4	1.3	ND	NS	NS	NS	1.8	NS
Total Calcium (Ca)	µg/l	100	NE	NT	NT	NT	ND	NS	NS	NS	27000	NS
Total Chromium (Cr)	µg/l	10	NE	16	51	48	ND	NS	NS	NS	43	NS
Total Cobalt (Co)	µg/l	10	25	ND	ND	ND	ND	NS	NS	NS	9.7	NS
Total Copper (Cu)	µg/l	200	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Iron (Fe)	µg/l	20	88	NT	NT	NT	NT	NS	NS	NS	9900	NS
Total Lead (Pb)	µg/l	10	5	ND	ND	ND	11	NS	NS	NS	ND	NS
Total Magnesium (Mg)	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	75000	NS
Total Manganese (Mn)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	1800	NS
Total Molybdenum (Mo)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	10	NS
Total Nickel (Ni)	µg/l	50	NE	ND	ND	6.2	ND	NS	NS	NS	41	NS
Total Potassium (K)	µg/l	500	0.012	ND	ND	ND	NT	NS	NS	NS	18000	NS
Total Selenium (Se)	µg/l	20	NE	ND	ND	ND	NT	NS	NS	NS	ND	NS
Total Silicon (Si)	µg/l	100	NE	NT	NT	NT	NT	NS	NS	NS	610	NS
Total Silver (Ag)	µg/l	10	51	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Sodium (Na)	µg/l	250	NE	NT	NT	NT	NT	NS	NS	NS	15000	NS
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Tin (Sn)	µg/l	10	NE	NT	NT	NT	NT	NS	NS	NS	10	NS
Total Titanium (Ti)	µg/l	5	NE	NT	NT	NT	NT	NS	NS	NS	130	NS
Total Vanadium (V)	µg/l	40	NE	ND	ND	9.2	ND	NS	NS	NS	11	NS
Total Zinc (Zn)	µg/l	50	0.3	24	46	38	ND	NS	NS	NS	86	NS
Mercury	µg/l	0.2	0.012	ND	ND	ND	NT	NS	NS	NS	NT	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	0.3	NT	NT	NT	NT	NS	NS	NS	NT	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	NT	NT	NT	NT	NS	NS	NS	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NT	NS	NS	NS	NT	NS
Toluene	µg/l	5	1000	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	NT	NT	NT	NT	NS	NS	NS	NT	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	NT	NT	NT	NT	NS	NS	NS	NT	NS
Xylene	µg/l	5	530	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.
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
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; >8.5	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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NS	NS	NS	2700	NS
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	ND	NS	NS	NS	NT	NS
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	ND	NS	NS	NS	ND	NS
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	NT	NT	NT	NT	NS	NS	NS	NT	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	NT	NT	NT	NT	NS	NS	NS	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	NT	NT	NT	NT	NS	NS	NS	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NT	NS	NS	NS	NT	NS
Toluene	µg/l	5	1000	NT	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	NT	NT	NT	NT	NS	NS	NS	NT	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	NT	NT	NT	NT	NS	NS	NS	NT	NS
Xylene	µg/l	5	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NS	NS	NS	**5000**	NS
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	NS	NS	NS	NT	NS
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	NS	NS	NS	**210**	NS
Total Silver (Ag)	µg/l	10	5	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	NE	**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	0.3	NT	NT	NT	NS	NS	NS	NT	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	NT	NT	NT	NS	NS	NS	NT	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	NT	NT	NT	NS	NS	NS	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	NT	NT	NT	NS	NS	NS	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NS	NS	NS	NT	NS
Toluene	µg/l	5	1000	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	NT	NT	NT	NS	NS	NS	NT	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	NT	NT	NT	NS	NS	NS	NT	NS
Xylene	µg/l	5	530	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 indicated 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; >8.5	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	10	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	1	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	250	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	1000	NS	NS	NS	NT	NS	NS	NS	NT
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	NS	NS	NS	**9.4**	NS	NS	NS	**8.1**
Total Selenium (Se)	µg/l	20	88	NS	NS	NS	ND	NS	NS	NS	ND
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	NS	NS	NS	NT	NS	NS	NS	NT
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	NS	NS	NS	NT	NS	NS	NS	NT
1,4-Dichlorobenzene	µg/l	5	75	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	700	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NS	NS	NS	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NS	NS	NS	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NT	NS	NS	NS	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NT	NS	NS	NS	NT
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	NS	NS	NS	NT	NS	NS	NS	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	NS	NS	NS	NT	NS	NS	NS	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NS	NS	NS	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NS	NS	NS	NT
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	NS	NS	NS	NT	NS	NS	NS	NT
Trichlorofluoromethane	µg/l	5	2100	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	0.015	NS	NS	NS	NT	NS	NS	NS	NT
Xylene	µg/l	5	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NS	NS	**2300**	NT
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	**9**	NS	NS	NT	NT
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	ND	NS	NS	ND	NT
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	NT	NT	NT	NT	NS	NS	NT	NT
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	NT	NT	NT	NT	NS	NS	NT	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	NT	NT	NT	NT	NS	NS	NT	NT
1,4-Dichlorobenzene	µg/l	5	75	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	700	NT	NT	NT	NT	NS	NS	NT	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NT	NS	NS	NT	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NT	NS	NS	NT	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NT	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NT	NS	NS	NT	NT
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	NT	NT	NT	NT	NS	NS	NT	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	NT	NT	NT	NT	NS	NS	NT	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NT	NS	NS	NT	NT
Toluene	µg/l	5	1000	NT	NT	NT	NT	NS	NS	NT	NT
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	NT	NT	NT	NT	NS	NS	NT	NT
Trichlorofluoromethane	µg/l	5	2100	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	0.015	NT	NT	NT	NT	NS	NS	NT	NT
Xylene	µg/l	5	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NS	NS	NS	**3000**	NS
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	NS	NS	NS	NT	NS
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	NS	NS	NS	ND	NS
Total Silver (Ag)	µg/l	10	5	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	NE	**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	0.3	NT	NT	NT	NS	NS	NS	NT	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	NT	NT	NT	NS	NS	NS	NT	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NS	NS	NS	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NS	NS	NS	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NS	NS	NS	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NS	NS	NS	NT	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	NT	NT	NT	NS	NS	NS	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	NT	NT	NT	NS	NS	NS	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NS	NS	NS	NT	NS
Toluene	µg/l	5	1000	NT	NT	NT	NS	NS	NS	NT	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	NT	NT	NT	NS	NS	NS	NT	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	NT	NT	NT	NS	NS	NS	NT	NS
Xylene	µg/l	5	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NS	NT	NT	**120**	NT
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	NS	ND	ND	ND	ND
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	NS	ND	ND	ND	ND
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	NT	NT	NT	NS	NT	NT	NT	NT
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	NT	NT	NT	NS	NT	NT	NT	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	NT	NT	NT	NS	NT	NT	NT	NT
1,4-Dichlorobenzene	µg/l	5	75	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	700	NT	NT	NT	NS	NT	NT	NT	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NS	NT	NT	NT	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NS	NT	NT	NT	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NS	NT	NT	NT	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NS	NT	NT	NT	NT
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	NT	NT	NT	NS	NT	NT	NT	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	NT	NT	NT	NS	NT	NT	NT	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NS	NT	NT	NT	NT
Toluene	µg/l	5	1000	NT	NT	NT	NS	NT	NT	NT	NT
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	NT	NT	NT	NS	NT	NT	NT	NT
Trichlorofluoromethane	µg/l	5	2100	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	0.015	NT	NT	NT	NS	NT	NT	NT	NT
Xylene	µg/l	5	530	NT	NT	NT	NS	NT	NT	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NS	NT	NT	**2500**	NS
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	NS	ND	ND	NT	NS
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	NS	ND	ND	ND	NS
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	ND	ND	ND	NS	ND	ND	NT	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	ND	ND	ND	NS	ND	ND	NT	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	ND	ND	ND	NS	ND	ND	NT	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	ND	ND	ND	NS	ND	ND	NT	NS
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	NS	ND	ND	NT	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	NS	ND	ND	NT	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	NS	ND	ND	NT	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	NS	ND	ND	NT	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	ND	ND	ND	NS	ND	ND	NT	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	ND	ND	ND	NS	ND	ND	NT	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	NS	ND	ND	NT	NS
Toluene	µg/l	5	1000	ND	ND	ND	NS	ND	ND	NT	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	ND	ND	ND	NS	ND	ND	NT	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	ND	ND	ND	NS	ND	ND	NT	NS
Xylene	µg/l	5	530	ND	ND	ND	NS	ND	ND	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	**12**	ND	ND	**45**	NS
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	**6**	ND	ND	**8**	NS
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	ND	ND	ND	ND	ND	ND	ND	NS
Xylene	µg/l	5	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NS	NT	NT	NT	NT	NS
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	NS	ND	ND	ND	**24**	NS
Total Selenium (Se)	µg/l	20	88	ND	ND	NS	ND	ND	ND	**6.2**	NS
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	ND	ND	NS	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	ND	ND	NS	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	ND	ND	NS	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	ND	ND	NS	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	NS	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	NS	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	NS	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	NS	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	ND	ND	NS	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	ND	ND	NS	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	NS	ND	ND	ND	ND	NS
Toluene	µg/l	5	1000	ND	ND	NS	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	ND	ND	NS	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	ND	ND	NS	ND	ND	ND	ND	NS
Xylene	µg/l	5	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NT	NT	NT	NT
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	ND	ND	ND	**50**	ND
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	ND	ND	ND	**7.4**	ND
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	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
Dibromomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	75	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	700	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	**11**	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	**63**	ND
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	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	0.015	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	NT	NT	NT	ND	NT	NT	NT	NS
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	ND	ND	ND	**9.2**	NS
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	ND	ND	ND	ND	ND	ND	ND	NS
Xylene	µg/l	5	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NT	NT	NT	NT
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	ND	ND	ND	**56**	ND
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	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
Dibromomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	75	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	700	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	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
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	**12**	ND
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	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	0.015	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	**16.1**	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	**8.4**	ND	ND	**68**	NS
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	ND	ND	ND	ND	NS
Total Silver (Ag)	µg/l	10	5	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	NE	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	0.3	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	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	620	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	5	75	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	700	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	5	2100	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	0.015	ND	ND	ND	ND	ND	ND	ND	NS
Xylene	µg/l	5	530	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 indicated 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; >8.5	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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NT	NT	NT	NT
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	ND	ND	ND	**50**	ND
Total Selenium (Se)	µg/l	20	88	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	10	5	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	NE	**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	0.3	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	5	50	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	0.19	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	0.025	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
Dibromomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	5	75	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	700	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	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
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	5	0.56	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	29	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	5	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	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	100	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	NE	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	**46**	ND
1,1,1-Trichloroethane	µg/l	5	200	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	2.8	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	5	2100	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	0.015	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	5	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	70	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	50	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	2	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	NE	**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	NE	**18.1**	ND	ND	ND	ND	ND	**81.2**	NS
Total Selenium (Se)	µg/l	10	88	ND	ND	ND	ND	ND	ND	ND	NS
Total Silver (Ag)	µg/l	5	5	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	NE	**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	0.3	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	1	50	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	0.19	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	0.025	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.0004	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	620	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	1	75	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	700	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	1	0.56	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	29	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	5	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	5	170	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	100	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	NE	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	µg/l	1	200	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	2.8	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	1	2100	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	0.015	ND	ND	ND	ND	ND	ND	ND	NS
Xylene	µg/l	2	530	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 indicated 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; >8.5	**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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NT	NT	NT	NT
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	**7.6**	ND	ND	**51.3**	ND
Total Selenium (Se)	µg/l	10	88	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	5	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	NE	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	0.3	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene (mono)	µg/l	1	50	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	0.19	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	0.025	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.0004	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	620	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	1	75	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	700	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	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
trans-1,2-Dichloroethene (-ylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	µg/l	1	0.56	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	29	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	5	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	170	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	100	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	NE	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	µg/l	1	200	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	2.8	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	2100	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	0.015	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	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 indicated 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; >8.5	**6.51**	**6.75**	**6.84**	**6.54**	**6.08**	**6.45**	**8.63**	Dry
Specific Couctance	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	10	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	1	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	250	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	1000	NT	NT	NT	NT	NT	NT	NT	Dry
Cyanide	µg/l	2	70	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	50	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	2	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	NE	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	NE	ND	ND	ND	**12.1**	**6**	ND	**57.6**	Dry
Total Selenium (Se)	µg/l	10	88	ND	ND	ND	**14**	**13.2**	ND	ND	Dry
Total Silver (Ag)	µg/l	5	5	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	NE	**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	0.3	ND	ND	ND	ND	ND	ND	ND	Dry
Chlorobenzene (mono)	µg/l	1	50	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	0.19	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	0.025	ND	ND	ND	ND	ND	ND	ND	Dry
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.0004	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	620	ND	ND	ND	ND	ND	ND	ND	Dry
1,4-Dichlorobenzene	µg/l	1	75	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	700	ND	ND	ND	ND	ND	ND	ND	Dry
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	Dry
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	Dry
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	Dry
trans-1,2-Dichloroethene (-ylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	Dry
1,2-Dichloropropane	µg/l	1	0.56	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	29	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	5	ND	ND	ND	ND	ND	ND	ND	Dry
2-Butanone (Methyl ethyl ketone)	µg/l	5	170	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	100	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	NE	ND	ND	ND	ND	ND	ND	ND	Dry
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	Dry
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	Dry
1,1,1-Trichloroethane	µg/l	1	200	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	2.8	ND	ND	ND	ND	ND	ND	ND	Dry
Trichlorofluoromethane	µg/l	1	2100	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	0.015	ND	ND	ND	ND	ND	ND	ND	Dry
Xylene	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	Dry

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 iicated exceedances of MCLs.

APPENDIX C

Laboratory Analytical Results

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November 06, 2008

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

RE: Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Dear Mr. King:
Enclosed are the analytical results for sample(s) received by the laboratory between October 20, 2008 and October 21, 2008. 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,

Jane Meehan for
Tom Williams
tom.williams@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Charlotte Certification IDs

Connecticut Certification Number: PH-0104
Pennsylvania Certification Number: 68-00784
West Virginia Certification Number: 357
Virginia Certification Number: 00213
Tennessee Certification Number: 04010
South Carolina Drinking Water Cert. Number: 990060003
South Carolina Certification Number: 990060001
North Carolina Field Services Certification Number: 5342
North Carolina Wastewater Certification Number: 12
North Carolina Drinking Water Certification Number: 37706
Louisiana/LELAP Certification Number: 04034
Kentucky UST Certification Number: 84
New Jersey Certification Number: NC012
Florida/NELAP Certification Number: E87627

Asheville Certification IDs

Connecticut Certification Number: PH-0106
Massachusetts Certification Number: M-NC030
West Virginia Certification Number: 356
Virginia Certification Number: 00072
Tennessee Certification Number: 2980
South Carolina Bioassay Certification Number: 99030002
South Carolina Certification Number: 99030001
Pennsylvania Certification Number: 68-03578
North Carolina Bioassay Certification Number: 9
North Carolina Wastewater Certification Number: 40
North Carolina Drinking Water Certification Number: 37712
New Jersey Certification Number: NC011
Louisiana/LELAP Certification Number: 03095
Florida/NELAP Certification Number: E87648

Eden Certification IDs

Virginia Drinking Water Certification Number: 00424
North Carolina Wastewater Certification Number: 633
North Carolina Drinking Water Certification Number: 37738

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: Leachate **Lab ID: 9230428001** Collected: 10/20/08 15:10 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 10:32		
Collected Date	**10/20/08**			1		11/04/08 10:32		
Collected Time	**15:10**			1		11/04/08 10:32		
Field pH	**8.63**	Std. Units		1		11/04/08 10:32		
Field Temperature	**22.2**	deg C		1		11/04/08 10:32		
Field Specific Conductance	**10780**	umhos/cm		1		11/04/08 10:32		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7440-36-0	
Arsenic	**11.4**	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7440-38-2	
Barium	**317**	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/24/08 16:00	10/27/08 17:27	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/24/08 16:00	10/27/08 17:27	7440-43-9	
Chromium	**34.5**	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7440-47-3	
Cobalt	**14.4**	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7440-48-4	
Copper	ND	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7440-50-8	
Lead	ND	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7439-92-1	
Nickel	**57.6**	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/24/08 16:00	10/27/08 17:27	7782-49-2	
Silver	ND	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7440-22-4	
Thallium	ND	ug/L	10.0	1	10/24/08 16:00	10/27/08 17:27	7440-28-0	
Vanadium	**12.0**	ug/L	5.0	1	10/24/08 16:00	10/27/08 17:27	7440-62-2	
Zinc	**27.6**	ug/L	10.0	1	10/24/08 16:00	10/27/08 17:27	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	**37.2**	ug/L	25.0	1		10/22/08 17:24	67-64-1	
Benzene	ND	ug/L	1.0	1		10/22/08 17:24	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		10/22/08 17:24	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 17:24	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 17:24	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 17:24	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 17:24	74-83-9	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: Leachate **Lab ID: 9230428001** Collected: 10/20/08 15:10 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 17:24	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 17:24	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 17:24	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 17:24	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 17:24	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 17:24	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		10/22/08 17:24	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		10/22/08 17:24	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 17:24	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 17:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 17:24	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 17:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 17:24	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 17:24	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 17:24	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		10/22/08 17:24	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/22/08 17:24	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 17:24	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 17:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 17:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 17:24	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 17:24	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		10/22/08 17:24	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 17:24	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		10/22/08 17:24	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 17:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 17:24	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		10/22/08 17:24	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 17:24	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		10/22/08 17:24	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 17:24	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		10/22/08 17:24	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 17:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 17:24	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/22/08 17:24	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		10/22/08 17:24	91-20-3	
Styrene	ND	ug/L	1.0	1		10/22/08 17:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 17:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 17:24	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 17:24	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 17:24	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		10/22/08 17:24	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		10/22/08 17:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 17:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 17:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 17:24	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 17:24	75-69-4	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: Leachate **Lab ID: 9230428001** Collected: 10/20/08 15:10 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 17:24	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 17:24	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 17:24	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 17:24	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 17:24	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		10/22/08 17:24	460-00-4	
Dibromofluoromethane (S)	99	%	85-115	1		10/22/08 17:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		10/22/08 17:24	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		10/22/08 17:24	2037-26-5	
5210B BOD, Low Level	Analytical Method: SM 5210B							
BOD, 5 day	**198**	mg/L	2.0	1	10/22/08 11:39	10/27/08 08:00		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		10/22/08 14:09		
Nitrogen, Nitrite	**0.14**	mg/L	0.10	1		10/22/08 14:09		
Nitrogen, NO2 plus NO3	**0.14**	mg/L	0.10	1		10/22/08 14:09		
365.1 Phosphorus, Total	Analytical Method: EPA 365.1							
Phosphorus	**3.0**	mg/L	0.20	2		10/30/08 17:13	7723-14-0	
5220D COD	Analytical Method: SM 5220D							
Chemical Oxygen Demand	**1190**	mg/L	25.0	1		10/31/08 22:45		
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90							
Sulfate	**58.3**	mg/L	10.0	2		10/24/08 16:38	14808-79-8	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-1 **Lab ID: 9230428002** Collected: 10/20/08 11:35 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 10:32		
Collected Date	**10/20/08**			1		11/04/08 10:32		
Collected Time	**11:35**			1		11/04/08 10:32		
Field pH	**6.51**	Std. Units		1		11/04/08 10:32		
Field Temperature	**11.3**	deg C		1		11/04/08 10:32		
Field Specific Conductance	**202**	umhos/cm		1		11/04/08 10:32		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7440-38-2	
Barium	**285**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:11	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:11	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7440-47-3	
Cobalt	**7.9**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:11	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:11	7440-28-0	
Vanadium	**9.9**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:11	7440-62-2	
Zinc	**19.0**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:11	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 17:47	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 17:47	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 17:47	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 17:47	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 17:47	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 17:47	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 17:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 17:47	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 17:47	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 17:47	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 17:47	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 17:47	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 17:47	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 17:47	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 17:47	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 17:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 17:47	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 17:47	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 17:47	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 17:47	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/22/08 17:47	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-1 **Lab ID: 9230428002** Collected: 10/20/08 11:35 Received: 10/20/08 17:20 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		10/22/08 17:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 17:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 17:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 17:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 17:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 17:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 17:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 17:47	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 17:47	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 17:47	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 17:47	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 17:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 17:47	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 17:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 17:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 17:47	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 17:47	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 17:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 17:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 17:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 17:47	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 17:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 17:47	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 17:47	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 17:47	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 17:47	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 17:47	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 17:47	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		10/22/08 17:47	460-00-4	
Dibromofluoromethane (S)	97	%	85-115	1		10/22/08 17:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		10/22/08 17:47	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		10/22/08 17:47	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-2 **Lab ID: 9230428003** Collected: 10/20/08 12:15 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 10:33		
Collected Date	**10/20/08**			1		11/04/08 10:33		
Collected Time	**12:15**			1		11/04/08 10:33		
Field pH	**6.75**	Std. Units		1		11/04/08 10:33		
Field Temperature	**10.2**	deg C		1		11/04/08 10:33		
Field Specific Conductance	**171**	umhos/cm		1		11/04/08 10:33		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7440-38-2	
Barium	**126**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:15	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:15	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7440-47-3	
Cobalt	**5.0**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:15	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:15	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:15	7440-62-2	
Zinc	**75.4**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:15	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 18:11	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 18:11	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 18:11	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 18:11	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 18:11	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 18:11	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 18:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 18:11	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 18:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 18:11	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 18:11	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 18:11	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 18:11	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 18:11	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 18:11	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 18:11	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 18:11	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 18:11	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 18:11	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 18:11	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/22/08 18:11	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-2 **Lab ID: 9230428003** Collected: 10/20/08 12:15 Received: 10/20/08 17:20 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		10/22/08 18:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 18:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 18:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 18:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 18:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 18:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 18:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 18:11	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 18:11	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 18:11	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 18:11	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 18:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 18:11	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 18:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 18:11	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 18:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 18:11	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 18:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 18:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 18:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 18:11	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 18:11	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 18:11	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 18:11	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 18:11	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 18:11	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 18:11	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 18:11	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		10/22/08 18:11	460-00-4	
Dibromofluoromethane (S)	99	%	85-115	1		10/22/08 18:11	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		10/22/08 18:11	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		10/22/08 18:11	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-3 **Lab ID: 9230428004** Collected: 10/20/08 11:45 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 10:34		
Collected Date	**10/20/08**			1		11/04/08 10:34		
Collected Time	**11:45**			1		11/04/08 10:34		
Field pH	**6.84**	Std. Units		1		11/04/08 10:34		
Field Temperature	**7.9**	deg C		1		11/04/08 10:34		
Field Specific Conductance	**296**	umhos/cm		1		11/04/08 10:34		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7440-38-2	
Barium	**137**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:18	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:18	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7440-47-3	
Cobalt	**6.4**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:18	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:18	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:18	7440-62-2	
Zinc	**39.4**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:18	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 18:35	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 18:35	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 18:35	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 18:35	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 18:35	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 18:35	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 18:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 18:35	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 18:35	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 18:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 18:35	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 18:35	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 18:35	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 18:35	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 18:35	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 18:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 18:35	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 18:35	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 18:35	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 18:35	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/22/08 18:35	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-3 **Lab ID: 9230428004** Collected: 10/20/08 11:45 Received: 10/20/08 17:20 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		10/22/08 18:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 18:35	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 18:35	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 18:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 18:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 18:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 18:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 18:35	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 18:35	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 18:35	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 18:35	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 18:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 18:35	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 18:35	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 18:35	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 18:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 18:35	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 18:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 18:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 18:35	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 18:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 18:35	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 18:35	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 18:35	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 18:35	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 18:35	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 18:35	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 18:35	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109	1		10/22/08 18:35	460-00-4	
Dibromofluoromethane (S)	99	%	85-115	1		10/22/08 18:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		10/22/08 18:35	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		10/22/08 18:35	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-6 **Lab ID: 9230428005** Collected: 10/20/08 10:45 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 10:39		
Collected Date	**10/20/08**			1		11/04/08 10:39		
Collected Time	**10:45**			1		11/04/08 10:39		
Field pH	**6.08**	Std. Units		1		11/04/08 10:39		
Field Temperature	**10.8**	deg C		1		11/04/08 10:39		
Field Specific Conductance	**56.1**	umhos/cm		1		11/04/08 10:39		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	**6.7**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7440-38-2	
Barium	**145**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:22	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:22	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7440-47-3	
Cobalt	**21.1**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7440-48-4	
Copper	**10.1**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7439-92-1	
Nickel	**6.0**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7440-02-0	
Selenium	**13.2**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:22	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:22	7440-28-0	
Vanadium	**17.5**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:22	7440-62-2	
Zinc	**29.5**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:22	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 18:59	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 18:59	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 18:59	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 18:59	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 18:59	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 18:59	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 18:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 18:59	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 18:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 18:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 18:59	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 18:59	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 18:59	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 18:59	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 18:59	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 18:59	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 18:59	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 18:59	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 18:59	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 18:59	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/22/08 18:59	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-6 **Lab ID: 9230428005** Collected: 10/20/08 10:45 Received: 10/20/08 17:20 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		10/22/08 18:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 18:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 18:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 18:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 18:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 18:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 18:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 18:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 18:59	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 18:59	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 18:59	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 18:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 18:59	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 18:59	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 18:59	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 18:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 18:59	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 18:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 18:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 18:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 18:59	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 18:59	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 18:59	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 18:59	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 18:59	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 18:59	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 18:59	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 18:59	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		10/22/08 18:59	460-00-4	
Dibromofluoromethane (S)	100	%	85-115	1		10/22/08 18:59	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		10/22/08 18:59	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		10/22/08 18:59	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-7 **Lab ID: 9230428006** Collected: 10/20/08 10:20 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 10:40		
Collected Date	**10/20/08**			1		11/04/08 10:40		
Collected Time	**10:20**			1		11/04/08 10:40		
Field pH	**6.45**	Std. Units		1		11/04/08 10:40		
Field Temperature	**9.6**	deg C		1		11/04/08 10:40		
Field Specific Conductance	**41**	umhos/cm		1		11/04/08 10:40		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7440-38-2	
Barium	**25.2**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:26	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:26	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:26	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:26	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:26	7440-62-2	
Zinc	**16.7**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:26	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 19:23	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 19:23	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 19:23	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 19:23	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 19:23	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 19:23	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 19:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 19:23	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 19:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 19:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 19:23	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 19:23	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 19:23	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 19:23	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 19:23	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 19:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 19:23	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 19:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 19:23	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 19:23	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/22/08 19:23	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-7 **Lab ID: 9230428006** Collected: 10/20/08 10:20 Received: 10/20/08 17:20 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		10/22/08 19:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 19:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 19:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 19:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 19:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 19:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 19:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 19:23	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 19:23	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 19:23	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 19:23	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 19:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 19:23	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 19:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 19:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 19:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 19:23	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 19:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 19:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 19:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 19:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 19:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 19:23	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 19:23	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 19:23	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 19:23	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 19:23	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 19:23	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		10/22/08 19:23	460-00-4	
Dibromofluoromethane (S)	98	%	85-115	1		10/22/08 19:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		10/22/08 19:23	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		10/22/08 19:23	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-2 **Lab ID: 9230428007** Collected: 10/20/08 14:10 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 10:41		
Collected Date	**10/20/08**			1		11/04/08 10:41		
Collected Time	**14:10**			1		11/04/08 10:41		
Field pH	**5.85**	Std. Units		1		11/04/08 10:41		
Field Temperature	**14.3**	deg C		1		11/04/08 10:41		
Static Water Level	**31.49**	feet		1		11/04/08 10:41		
Field Specific Conductance	**1420**	umhos/cm		1		11/04/08 10:41		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7440-38-2	
Barium	**1210**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:29	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:29	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7440-47-3	
Cobalt	**7.7**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7439-92-1	
Nickel	**10.7**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:29	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:29	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:29	7440-62-2	
Zinc	**10.6**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:29	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 19:46	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 19:46	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 19:46	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 19:46	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 19:46	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 19:46	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 19:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 19:46	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 19:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 19:46	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 19:46	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 19:46	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 19:46	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 19:46	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 19:46	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 19:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 19:46	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 19:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 19:46	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 19:46	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-2 **Lab ID: 9230428007** Collected: 10/20/08 14:10 Received: 10/20/08 17:20 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		10/22/08 19:46	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/22/08 19:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 19:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 19:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 19:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 19:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 19:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 19:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 19:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 19:46	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 19:46	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 19:46	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 19:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 19:46	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 19:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 19:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 19:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 19:46	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 19:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 19:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 19:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 19:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 19:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 19:46	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 19:46	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 19:46	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 19:46	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 19:46	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 19:46	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		10/22/08 19:46	460-00-4	
Dibromofluoromethane (S)	100	%	85-115	1		10/22/08 19:46	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		10/22/08 19:46	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		10/22/08 19:46	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-2D **Lab ID: 9230428008** Collected: 10/20/08 14:20 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 10:45		
Collected Date	**10/20/08**			1		11/04/08 10:45		
Collected Time	**14:20**			1		11/04/08 10:45		
Field pH	**5.97**	Std. Units		1		11/04/08 10:45		
Field Temperature	**15.4**	deg C		1		11/04/08 10:45		
Static Water Level	**31.60**	feet		1		11/04/08 10:45		
Field Specific Conductance	**1111**	umhos/cm		1		11/04/08 10:45		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7440-38-2	
Barium	**894**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:34	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:34	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7439-92-1	
Nickel	**7.5**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:34	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:34	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:34	7440-62-2	
Zinc	**29.1**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:34	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 20:10	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 20:10	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 20:10	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 20:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 20:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 20:10	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 20:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 20:10	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 20:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 20:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 20:10	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 20:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 20:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 20:10	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 20:10	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 20:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 20:10	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 20:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 20:10	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 20:10	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-2D **Lab ID: 9230428008** Collected: 10/20/08 14:20 Received: 10/20/08 17:20 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		10/22/08 20:10	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/22/08 20:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 20:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 20:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 20:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 20:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 20:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 20:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 20:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 20:10	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 20:10	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 20:10	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 20:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 20:10	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 20:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 20:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 20:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 20:10	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 20:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 20:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 20:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 20:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 20:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 20:10	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 20:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 20:10	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 20:10	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 20:10	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 20:10	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		10/22/08 20:10	460-00-4	
Dibromofluoromethane (S)	98	%	85-115	1		10/22/08 20:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120	1		10/22/08 20:10	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		10/22/08 20:10	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-3 **Lab ID: 9230428009** Collected: 10/20/08 14:50 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:21		
Collected Date	**10/20/08**			1		11/04/08 18:21		
Collected Time	**14:50**			1		11/04/08 18:21		
Field pH	**5.88**	Std. Units		1		11/04/08 18:21		
Field Temperature	**14.9**	deg C		1		11/04/08 18:21		
Static Water Level	**10.41**	feet		1		11/04/08 18:21		
Field Specific Conductance	**320**	umhos/cm		1		11/04/08 18:21		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7440-38-2	
Barium	**164**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:38	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:38	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7440-47-3	
Cobalt	**12.6**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:38	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:38	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:38	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:38	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 20:34	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 20:34	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 20:34	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 20:34	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 20:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 20:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 20:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 20:34	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 20:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 20:34	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 20:34	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 20:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 20:34	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 20:34	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 20:34	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 20:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 20:34	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 20:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 20:34	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 20:34	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-3 **Lab ID: 9230428009** Collected: 10/20/08 14:50 Received: 10/20/08 17:20 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		10/22/08 20:34	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/22/08 20:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 20:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 20:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 20:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 20:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 20:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 20:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 20:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 20:34	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 20:34	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 20:34	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 20:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 20:34	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 20:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 20:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 20:34	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 20:34	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 20:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 20:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 20:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 20:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 20:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 20:34	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 20:34	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 20:34	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 20:34	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 20:34	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 20:34	95-47-6	
4-Bromofluorobenzene (S)	100	%	87-109	1		10/22/08 20:34	460-00-4	
Dibromofluoromethane (S)	98	%	85-115	1		10/22/08 20:34	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		10/22/08 20:34	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		10/22/08 20:34	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-3D **Lab ID: 9230428010** Collected: 10/20/08 14:55 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:22		
Collected Date	**10/20/08**			1		11/04/08 18:22		
Collected Time	**14:55**			1		11/04/08 18:22		
Field pH	**5.84**	Std. Units		1		11/04/08 18:22		
Field Temperature	**14.6**	deg C		1		11/04/08 18:22		
Static Water Level	**17.55**	feet		1		11/04/08 18:22		
Field Specific Conductance	**350**	umhos/cm		1		11/04/08 18:22		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7440-38-2	
Barium	**216**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:49	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:49	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7440-47-3	
Cobalt	**5.3**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7439-92-1	
Nickel	**14.0**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:49	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7440-22-4	
Thallium	**6.1**	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:49	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:49	7440-62-2	
Zinc	**12.4**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:49	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 20:57	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 20:57	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 20:57	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 20:57	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 20:57	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 20:57	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 20:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 20:57	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 20:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 20:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 20:57	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 20:57	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 20:57	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 20:57	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 20:57	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 20:57	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 20:57	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 20:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 20:57	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 20:57	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-3D **Lab ID: 9230428010** Collected: 10/20/08 14:55 Received: 10/20/08 17:20 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		10/22/08 20:57	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/22/08 20:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 20:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 20:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 20:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 20:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 20:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 20:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 20:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 20:57	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 20:57	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 20:57	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 20:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 20:57	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 20:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 20:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 20:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 20:57	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 20:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 20:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 20:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 20:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 20:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 20:57	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 20:57	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 20:57	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 20:57	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 20:57	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 20:57	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		10/22/08 20:57	460-00-4	
Dibromofluoromethane (S)	98	%	85-115	1		10/22/08 20:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120	1		10/22/08 20:57	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		10/22/08 20:57	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-8 **Lab ID: 9230428011** Collected: 10/20/08 14:40 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:23		
Collected Date	**10/20/08**			1		11/04/08 18:23		
Collected Time	**14:40**			1		11/04/08 18:23		
Field pH	**5.59**	Std. Units		1		11/04/08 18:23		
Field Temperature	**14.5**	deg C		1		11/04/08 18:23		
Static Water Level	**32.08**	feet		1		11/04/08 18:23		
Field Specific Conductance	**621**	umhos/cm		1		11/04/08 18:23		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7440-38-2	
Barium	**182**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:53	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:53	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:53	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:53	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:53	7440-62-2	
Zinc	**17.4**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:53	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 21:21	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 21:21	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 21:21	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 21:21	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 21:21	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 21:21	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 21:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 21:21	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 21:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 21:21	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 21:21	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 21:21	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 21:21	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 21:21	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 21:21	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 21:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 21:21	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 21:21	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 21:21	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 21:21	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-8 **Lab ID: 9230428011** Collected: 10/20/08 14:40 Received: 10/20/08 17:20 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		10/22/08 21:21	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/22/08 21:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 21:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 21:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 21:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 21:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 21:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 21:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 21:21	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 21:21	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 21:21	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 21:21	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 21:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 21:21	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 21:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 21:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 21:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 21:21	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 21:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 21:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 21:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 21:21	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 21:21	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 21:21	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 21:21	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 21:21	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 21:21	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 21:21	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 21:21	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		10/22/08 21:21	460-00-4	
Dibromofluoromethane (S)	100	%	85-115	1		10/22/08 21:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		10/22/08 21:21	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		10/22/08 21:21	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-9 **Lab ID: 9230428012** Collected: 10/20/08 12:20 Received: 10/20/08 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:25		
Collected Date	**10/20/08**			1		11/04/08 18:25		
Collected Time	**12:20**			1		11/04/08 18:25		
Field pH	**6.32**	Std. Units		1		11/04/08 18:25		
Field Temperature	**12.7**	deg C		1		11/04/08 18:25		
Static Water Level	**9.99**	feet		1		11/04/08 18:25		
Field Specific Conductance	**429**	umhos/cm		1		11/04/08 18:25		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7440-38-2	
Barium	**244**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:57	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/22/08 12:05	10/23/08 22:57	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7440-48-4	
Copper	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7440-50-8	
Lead	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7439-92-1	
Nickel	**6.3**	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:57	7782-49-2	
Silver	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/22/08 12:05	10/23/08 22:57	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/22/08 12:05	10/23/08 22:57	7440-62-2	
Zinc	**86.2**	ug/L	10.0	1	10/22/08 12:05	10/23/08 22:57	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/22/08 21:45	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/22/08 21:45	107-13-1	
Benzene	ND	ug/L	1.0	1		10/22/08 21:45	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/22/08 21:45	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/22/08 21:45	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/22/08 21:45	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/22/08 21:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/22/08 21:45	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/22/08 21:45	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/22/08 21:45	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/22/08 21:45	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/22/08 21:45	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/22/08 21:45	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/22/08 21:45	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/22/08 21:45	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/22/08 21:45	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/22/08 21:45	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/22/08 21:45	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 21:45	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/22/08 21:45	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-9 **Lab ID: 9230428012** Collected: 10/20/08 12:20 Received: 10/20/08 17:20 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		10/22/08 21:45	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/22/08 21:45	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/22/08 21:45	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/22/08 21:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 21:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/22/08 21:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/22/08 21:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 21:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/22/08 21:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/22/08 21:45	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/22/08 21:45	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/22/08 21:45	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/22/08 21:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/22/08 21:45	108-10-1	
Styrene	ND	ug/L	1.0	1		10/22/08 21:45	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 21:45	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/22/08 21:45	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/22/08 21:45	127-18-4	
Toluene	ND	ug/L	1.0	1		10/22/08 21:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/22/08 21:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/22/08 21:45	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/22/08 21:45	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/22/08 21:45	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/22/08 21:45	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/22/08 21:45	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/22/08 21:45	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/22/08 21:45	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/22/08 21:45	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/22/08 21:45	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	1		10/22/08 21:45	460-00-4	
Dibromofluoromethane (S)	100	%	85-115	1		10/22/08 21:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		10/22/08 21:45	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		10/22/08 21:45	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-1A **Lab ID: 9230428013** Collected: 10/20/08 15:20 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:27		
Collected Date	**10/21/08**			1		11/04/08 18:27		
Collected Time	**12:00**			1		11/04/08 18:27		
Field pH	**6.13**	Std. Units		1		11/04/08 18:27		
Field Temperature	**13.2**	deg C		1		11/04/08 18:27		
Static Water Level	**25.07**	feet		1		11/04/08 18:27		
Field Specific Conductance	**104**	umhos/cm		1		11/04/08 18:27		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7440-38-2	
Barium	**224**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:18	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:18	7440-43-9	
Chromium	**12.7**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7440-47-3	
Cobalt	**9.4**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7440-48-4	
Copper	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7440-50-8	
Lead	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7439-92-1	
Nickel	**11.1**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:18	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:18	7440-28-0	
Vanadium	**15.8**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:18	7440-62-2	
Zinc	**15.3**	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:18	7440-66-6	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-1A **Lab ID: 9230428014** Collected: 10/21/08 12:00 Received: 10/21/08 18:00 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		10/31/08 21:34	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/08 21:34	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/08 21:34	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/08 21:34	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/08 21:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/08 21:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/08 21:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/08 21:34	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/08 21:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/08 21:34	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/08 21:34	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/08 21:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/08 21:34	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/08 21:34	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/31/08 21:34	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/08 21:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/08 21:34	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/08 21:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 21:34	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 21:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/08 21:34	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/08 21:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/08 21:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/08 21:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 21:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 21:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/08 21:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 21:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 21:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/08 21:34	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/08 21:34	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/08 21:34	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/08 21:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/08 21:34	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/08 21:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 21:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 21:34	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/08 21:34	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/08 21:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/08 21:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/08 21:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/08 21:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/08 21:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/08 21:34	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/08 21:34	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/08 21:34	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/08 21:34	1330-20-7	

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Huntersville, NC 28078
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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-1A **Lab ID: 9230428014** Collected: 10/21/08 12:00 Received: 10/21/08 18:00 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		10/31/08 21:34	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/31/08 21:34	95-47-6	
4-Bromofluorobenzene (S)	108	%	87-109	1		10/31/08 21:34	460-00-4	
Dibromofluoromethane (S)	96	%	85-115	1		10/31/08 21:34	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	79-120	1		10/31/08 21:34	17060-07-0	
Toluene-d8 (S)	102	%	70-120	1		10/31/08 21:34	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-4A **Lab ID: 9230428015** Collected: 10/21/08 13:00 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:28		
Collected Date	**10/21/08**			1		11/04/08 18:28		
Collected Time	**13:00**			1		11/04/08 18:28		
Field pH	**7.86**	Std. Units		1		11/04/08 18:28		
Field Temperature	**15.2**	deg C		1		11/04/08 18:28		
Static Water Level	**50.52**	feet		1		11/04/08 18:28		
Field Specific Conductance	**129**	umhos/cm		1		11/04/08 18:28		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7440-38-2	
Barium	**41.1**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:21	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:21	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7440-47-3	
Cobalt	**7.1**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7440-48-4	
Copper	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7440-50-8	
Lead	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:21	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:21	7440-28-0	
Vanadium	**5.4**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:21	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:21	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/08 21:51	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/08 21:51	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/08 21:51	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/08 21:51	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/08 21:51	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/08 21:51	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/08 21:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/08 21:51	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/08 21:51	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/08 21:51	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/08 21:51	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/08 21:51	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/08 21:51	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/08 21:51	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/31/08 21:51	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/08 21:51	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/08 21:51	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/08 21:51	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 21:51	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 21:51	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-4A **Lab ID: 9230428015** Collected: 10/21/08 13:00 Received: 10/21/08 18:00 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		10/31/08 21:51	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/08 21:51	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/08 21:51	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/08 21:51	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 21:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 21:51	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/08 21:51	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 21:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 21:51	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/08 21:51	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/08 21:51	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/08 21:51	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/08 21:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/08 21:51	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/08 21:51	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 21:51	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 21:51	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/08 21:51	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/08 21:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/08 21:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/08 21:51	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/08 21:51	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/08 21:51	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/08 21:51	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/08 21:51	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/08 21:51	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/08 21:51	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/08 21:51	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/31/08 21:51	95-47-6	
4-Bromofluorobenzene (S)	105	%	87-109	1		10/31/08 21:51	460-00-4	
Dibromofluoromethane (S)	103	%	85-115	1		10/31/08 21:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	79-120	1		10/31/08 21:51	17060-07-0	
Toluene-d8 (S)	106	%	70-120	1		10/31/08 21:51	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-5A **Lab ID: 9230428016** Collected: 10/21/08 16:25 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:29		
Collected Date	**10/21/08**			1		11/04/08 18:29		
Collected Time	**16:25**			1		11/04/08 18:29		
Field pH	**5.00**	Std. Units		1		11/04/08 18:29		
Field Temperature	**15.0**	deg C		1		11/04/08 18:29		
Static Water Level	**7.25**	feet		1		11/04/08 18:29		
Field Specific Conductance	**84**	umhos/cm		1		11/04/08 18:29		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7440-38-2	
Barium	**83.8**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:25	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:25	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7440-47-3	
Cobalt	**8.8**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7440-48-4	
Copper	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7440-50-8	
Lead	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:25	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:25	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:25	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:25	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/08 22:07	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/08 22:07	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/08 22:07	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/08 22:07	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/08 22:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/08 22:07	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/08 22:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/08 22:07	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/08 22:07	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/08 22:07	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/08 22:07	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/08 22:07	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/08 22:07	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/08 22:07	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/31/08 22:07	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/08 22:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/08 22:07	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/08 22:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 22:07	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 22:07	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-5A **Lab ID: 9230428016** Collected: 10/21/08 16:25 Received: 10/21/08 18:00 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		10/31/08 22:07	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/08 22:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/08 22:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/08 22:07	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 22:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 22:07	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/08 22:07	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/08 22:07	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/08 22:07	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/08 22:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/08 22:07	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/08 22:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 22:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 22:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/08 22:07	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/08 22:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/08 22:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/08 22:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/08 22:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/08 22:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/08 22:07	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/08 22:07	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/08 22:07	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/08 22:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/08 22:07	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/31/08 22:07	95-47-6	
4-Bromofluorobenzene (S)	108	%	87-109	1		10/31/08 22:07	460-00-4	
Dibromofluoromethane (S)	97	%	85-115	1		10/31/08 22:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	114	%	79-120	1		10/31/08 22:07	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		10/31/08 22:07	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-5D **Lab ID: 9230428017** Collected: 10/21/08 16:35 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:29		
Collected Date	**10/21/08**			1		11/04/08 18:29		
Collected Time	**16:35**			1		11/04/08 18:29		
Field pH	**5.39**	Std. Units		1		11/04/08 18:29		
Field Temperature	**14.0**	deg C		1		11/04/08 18:29		
Static Water Level	**7.25**	feet		1		11/04/08 18:29		
Field Specific Conductance	**125**	umhos/cm		1		11/04/08 18:29		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7440-38-2	
Barium	**205**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:28	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:28	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7440-47-3	
Cobalt	**8.0**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7440-48-4	
Copper	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7440-50-8	
Lead	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7439-92-1	
Nickel	**5.2**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:28	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:28	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:28	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:28	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/08 22:24	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/08 22:24	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/08 22:24	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/08 22:24	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/08 22:24	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/08 22:24	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/08 22:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/08 22:24	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/08 22:24	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/08 22:24	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/08 22:24	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/08 22:24	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/08 22:24	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/08 22:24	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/31/08 22:24	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/08 22:24	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/08 22:24	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/08 22:24	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 22:24	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 22:24	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-5D **Lab ID: 9230428017** Collected: 10/21/08 16:35 Received: 10/21/08 18:00 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		10/31/08 22:24	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/08 22:24	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/08 22:24	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:24	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/08 22:24	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 22:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 22:24	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/08 22:24	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/08 22:24	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/08 22:24	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/08 22:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/08 22:24	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/08 22:24	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 22:24	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 22:24	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/08 22:24	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/08 22:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/08 22:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/08 22:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/08 22:24	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/08 22:24	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/08 22:24	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/08 22:24	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/08 22:24	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/08 22:24	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/08 22:24	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/31/08 22:24	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109	1		10/31/08 22:24	460-00-4	
Dibromofluoromethane (S)	103	%	85-115	1		10/31/08 22:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		10/31/08 22:24	17060-07-0	
Toluene-d8 (S)	104	%	70-120	1		10/31/08 22:24	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-11S **Lab ID: 9230428018** Collected: 10/21/08 13:20 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:30		
Collected Date	**10/21/08**			1		11/04/08 18:30		
Collected Time	**13:20**			1		11/04/08 18:30		
Field pH	**5.72**	Std. Units		1		11/04/08 18:30		
Field Temperature	**13.8**	deg C		1		11/04/08 18:30		
Static Water Level	**85.20**	feet		1		11/04/08 18:30		
Field Specific Conductance	**28**	umhos/cm		1		11/04/08 18:30		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7440-38-2	
Barium	**474**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:31	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:31	7440-43-9	
Chromium	**38.6**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7440-47-3	
Cobalt	**27.0**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7440-48-4	
Copper	**26.5**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7440-50-8	
Lead	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7439-92-1	
Nickel	**23.0**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:31	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7440-22-4	
Thallium	**7.2**	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:31	7440-28-0	
Vanadium	**79.0**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:31	7440-62-2	
Zinc	**66.5**	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:31	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/08 22:40	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/08 22:40	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/08 22:40	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/08 22:40	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/08 22:40	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/08 22:40	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/08 22:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/08 22:40	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/08 22:40	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/08 22:40	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/08 22:40	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/08 22:40	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/08 22:40	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/08 22:40	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/31/08 22:40	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/08 22:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/08 22:40	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/08 22:40	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 22:40	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 22:40	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-11S **Lab ID: 9230428018** Collected: 10/21/08 13:20 Received: 10/21/08 18:00 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		10/31/08 22:40	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/08 22:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/08 22:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/08 22:40	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 22:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 22:40	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/08 22:40	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/08 22:40	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/08 22:40	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/08 22:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/08 22:40	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/08 22:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 22:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 22:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/08 22:40	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/08 22:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/08 22:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/08 22:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/08 22:40	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/08 22:40	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/08 22:40	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/08 22:40	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/08 22:40	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/08 22:40	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/08 22:40	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/31/08 22:40	95-47-6	
4-Bromofluorobenzene (S)	108	%	87-109	1		10/31/08 22:40	460-00-4	
Dibromofluoromethane (S)	104	%	85-115	1		10/31/08 22:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	79-120	1		10/31/08 22:40	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		10/31/08 22:40	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-11D **Lab ID: 9230428019** Collected: 10/21/08 13:30 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:31		
Collected Date	**10/21/08**			1		11/04/08 18:31		
Collected Time	**13:30**			1		11/04/08 18:31		
Field pH	**6.70**	Std. Units		1		11/04/08 18:31		
Field Temperature	**14..2**	deg C		1		11/04/08 18:31		
Static Water Level	**86.3**	feet		1		11/04/08 18:31		
Field Specific Conductance	**54**	umhos/cm		1		11/04/08 18:31		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7440-38-2	
Barium	**66.0**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7440-39-3	
Beryllium	**1.2**	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:35	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:35	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7440-47-3	
Cobalt	**10.4**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7440-48-4	
Copper	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7440-50-8	
Lead	**13.5**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:35	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:35	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:35	7440-62-2	
Zinc	**19.9**	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:35	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/08 22:57	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/08 22:57	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/08 22:57	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/08 22:57	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/08 22:57	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/08 22:57	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/08 22:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/08 22:57	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/08 22:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/08 22:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/08 22:57	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/08 22:57	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/08 22:57	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/08 22:57	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		10/31/08 22:57	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/08 22:57	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/08 22:57	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/08 22:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 22:57	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/08 22:57	106-46-7	

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9800 Kincey Ave. Suite 100
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(704)875-9092

ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-11D **Lab ID: 9230428019** Collected: 10/21/08 13:30 Received: 10/21/08 18:00 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		10/31/08 22:57	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/08 22:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/08 22:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/08 22:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/08 22:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 22:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/08 22:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/08 22:57	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/08 22:57	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/08 22:57	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/08 22:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/08 22:57	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/08 22:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 22:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/08 22:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/08 22:57	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/08 22:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/08 22:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/08 22:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/08 22:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/08 22:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/08 22:57	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/08 22:57	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/08 22:57	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/08 22:57	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/08 22:57	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		10/31/08 22:57	95-47-6	
4-Bromofluorobenzene (S)	106	%	87-109	1		10/31/08 22:57	460-00-4	
Dibromofluoromethane (S)	105	%	85-115	1		10/31/08 22:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	79-120	1		10/31/08 22:57	17060-07-0	
Toluene-d8 (S)	95	%	70-120	1		10/31/08 22:57	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-12 **Lab ID: 9230428020** Collected: 10/21/08 15:40 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:32		
Collected Date	**10/21/08**			1		11/04/08 18:32		
Collected Time	**15:40**			1		11/04/08 18:32		
Field pH	**5.78**	Std. Units		1		11/04/08 18:32		
Field Temperature	**14.1**	deg C		1		11/04/08 18:32		
Static Water Level	**12.84**	feet		1		11/04/08 18:32		
Field Specific Conductance	**145**	umhos/cm		1		11/04/08 18:32		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7440-36-0	
Arsenic	**16.2**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7440-38-2	
Barium	**747**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:38	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:38	7440-43-9	
Chromium	**6.6**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7440-47-3	
Cobalt	**41.7**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7440-48-4	
Copper	**7.7**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7440-50-8	
Lead	**8.2**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7439-92-1	
Nickel	**14.8**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:38	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:38	7440-28-0	
Vanadium	**31.6**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:38	7440-62-2	
Zinc	**24.6**	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:38	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/03/08 02:13	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/03/08 02:13	107-13-1	
Benzene	ND	ug/L	1.0	1		11/03/08 02:13	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/03/08 02:13	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/03/08 02:13	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/03/08 02:13	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/03/08 02:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/03/08 02:13	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/03/08 02:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/03/08 02:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/03/08 02:13	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/03/08 02:13	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/03/08 02:13	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/03/08 02:13	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		11/03/08 02:13	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/03/08 02:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/03/08 02:13	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/03/08 02:13	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 02:13	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 02:13	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-12 **Lab ID: 9230428020** Collected: 10/21/08 15:40 Received: 10/21/08 18:00 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		11/03/08 02:13	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/03/08 02:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/03/08 02:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/03/08 02:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 02:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 02:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/03/08 02:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 02:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 02:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/03/08 02:13	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/03/08 02:13	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/03/08 02:13	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/03/08 02:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/03/08 02:13	108-10-1	
Styrene	ND	ug/L	1.0	1		11/03/08 02:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 02:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 02:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/03/08 02:13	127-18-4	
Toluene	ND	ug/L	1.0	1		11/03/08 02:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/03/08 02:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/03/08 02:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/03/08 02:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/03/08 02:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/03/08 02:13	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/03/08 02:13	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/03/08 02:13	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/03/08 02:13	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/03/08 02:13	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		11/03/08 02:13	95-47-6	
4-Bromofluorobenzene (S)	106	%	87-109	1		11/03/08 02:13	460-00-4	
Dibromofluoromethane (S)	95	%	85-115	1		11/03/08 02:13	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	79-120	1		11/03/08 02:13	17060-07-0	
Toluene-d8 (S)	96	%	70-120	1		11/03/08 02:13	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-13S **Lab ID: 9230428021** Collected: 10/21/08 15:25 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:32		
Collected Date	**10/21/08**			1		11/04/08 18:32		
Collected Time	**15:25**			1		11/04/08 18:32		
Field pH	**5.46**	Std. Units		1		11/04/08 18:32		
Field Temperature	**13.6**	deg C		1		11/04/08 18:32		
Static Water Level	**13.93**	feet		1		11/04/08 18:32		
Field Specific Conductance	**67**	umhos/cm		1		11/04/08 18:32		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7440-38-2	
Barium	**852**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:41	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:41	7440-43-9	
Chromium	**9.1**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7440-47-3	
Cobalt	**21.8**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7440-48-4	
Copper	**8.1**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7440-50-8	
Lead	**5.1**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7439-92-1	
Nickel	**6.2**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:41	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:41	7440-28-0	
Vanadium	**30.2**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:41	7440-62-2	
Zinc	**22.4**	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:41	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/03/08 02:37	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/03/08 02:37	107-13-1	
Benzene	ND	ug/L	1.0	1		11/03/08 02:37	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/03/08 02:37	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/03/08 02:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/03/08 02:37	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/03/08 02:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/03/08 02:37	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/03/08 02:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/03/08 02:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/03/08 02:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/03/08 02:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/03/08 02:37	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/03/08 02:37	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		11/03/08 02:37	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/03/08 02:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/03/08 02:37	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/03/08 02:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 02:37	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 02:37	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-13S **Lab ID: 9230428021** Collected: 10/21/08 15:25 Received: 10/21/08 18:00 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		11/03/08 02:37	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/03/08 02:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/03/08 02:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/03/08 02:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 02:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 02:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/03/08 02:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 02:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 02:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/03/08 02:37	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/03/08 02:37	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/03/08 02:37	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/03/08 02:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/03/08 02:37	108-10-1	
Styrene	ND	ug/L	1.0	1		11/03/08 02:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 02:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 02:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/03/08 02:37	127-18-4	
Toluene	ND	ug/L	1.0	1		11/03/08 02:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/03/08 02:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/03/08 02:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/03/08 02:37	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/03/08 02:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/03/08 02:37	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/03/08 02:37	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/03/08 02:37	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/03/08 02:37	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/03/08 02:37	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		11/03/08 02:37	95-47-6	
4-Bromofluorobenzene (S)	105	%	87-109	1		11/03/08 02:37	460-00-4	
Dibromofluoromethane (S)	95	%	85-115	1		11/03/08 02:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	79-120	1		11/03/08 02:37	17060-07-0	
Toluene-d8 (S)	93	%	70-120	1		11/03/08 02:37	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-13D **Lab ID: 9230428022** Collected: 10/21/08 15:15 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:33		
Collected Date	**10/21/08**			1		11/04/08 18:33		
Collected Time	**15:15**			1		11/04/08 18:33		
Field pH	**6.19**	Std. Units		1		11/04/08 18:33		
Field Temperature	**14.5**	deg C		1		11/04/08 18:33		
Static Water Level	**13.68**	feet		1		11/04/08 18:33		
Field Specific Conductance	**53**	umhos/cm		1		11/04/08 18:33		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7440-38-2	
Barium	**26.4**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:51	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:51	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7440-47-3	
Cobalt	**6.6**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7440-48-4	
Copper	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7440-50-8	
Lead	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:51	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:51	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:51	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:51	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/03/08 03:01	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/03/08 03:01	107-13-1	
Benzene	ND	ug/L	1.0	1		11/03/08 03:01	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/03/08 03:01	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/03/08 03:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/03/08 03:01	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/03/08 03:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/03/08 03:01	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/03/08 03:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/03/08 03:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/03/08 03:01	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/03/08 03:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/03/08 03:01	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/03/08 03:01	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		11/03/08 03:01	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/03/08 03:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/03/08 03:01	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/03/08 03:01	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 03:01	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 03:01	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-13D **Lab ID: 9230428022** Collected: 10/21/08 15:15 Received: 10/21/08 18:00 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		11/03/08 03:01	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/03/08 03:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/03/08 03:01	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/03/08 03:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 03:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 03:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/03/08 03:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 03:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 03:01	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/03/08 03:01	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/03/08 03:01	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/03/08 03:01	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/03/08 03:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/03/08 03:01	108-10-1	
Styrene	ND	ug/L	1.0	1		11/03/08 03:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 03:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 03:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/03/08 03:01	127-18-4	
Toluene	ND	ug/L	1.0	1		11/03/08 03:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/03/08 03:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/03/08 03:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/03/08 03:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/03/08 03:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/03/08 03:01	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/03/08 03:01	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/03/08 03:01	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/03/08 03:01	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/03/08 03:01	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		11/03/08 03:01	95-47-6	
4-Bromofluorobenzene (S)	107	%	87-109	1		11/03/08 03:01	460-00-4	
Dibromofluoromethane (S)	94	%	85-115	1		11/03/08 03:01	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		11/03/08 03:01	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		11/03/08 03:01	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-14 **Lab ID: 9230428023** Collected: 10/21/08 10:15 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:34		
Collected Date	**10/21/08**			1		11/04/08 18:34		
Collected Time	**10:15**			1		11/04/08 18:34		
Field pH	**6.23**	Std. Units		1		11/04/08 18:34		
Field Temperature	**12.0**	deg C		1		11/04/08 18:34		
Static Water Level	**105.85**	feet		1		11/04/08 18:34		
Field Specific Conductance	**44**	umhos/cm		1		11/04/08 18:34		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7440-38-2	
Barium	**313**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:55	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:55	7440-43-9	
Chromium	**29.4**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7440-47-3	
Cobalt	**19.5**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7440-48-4	
Copper	**8.3**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7440-50-8	
Lead	**7.6**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7439-92-1	
Nickel	**21.0**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:55	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:55	7440-28-0	
Vanadium	**15.1**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:55	7440-62-2	
Zinc	**59.2**	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:55	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/03/08 03:25	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/03/08 03:25	107-13-1	
Benzene	ND	ug/L	1.0	1		11/03/08 03:25	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/03/08 03:25	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/03/08 03:25	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/03/08 03:25	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/03/08 03:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/03/08 03:25	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/03/08 03:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/03/08 03:25	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/03/08 03:25	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/03/08 03:25	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/03/08 03:25	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/03/08 03:25	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		11/03/08 03:25	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/03/08 03:25	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/03/08 03:25	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/03/08 03:25	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 03:25	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 03:25	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-14 **Lab ID: 9230428023** Collected: 10/21/08 10:15 Received: 10/21/08 18:00 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		11/03/08 03:25	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/03/08 03:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/03/08 03:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/03/08 03:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 03:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 03:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/03/08 03:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 03:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 03:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/03/08 03:25	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/03/08 03:25	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/03/08 03:25	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/03/08 03:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/03/08 03:25	108-10-1	
Styrene	ND	ug/L	1.0	1		11/03/08 03:25	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 03:25	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 03:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/03/08 03:25	127-18-4	
Toluene	ND	ug/L	1.0	1		11/03/08 03:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/03/08 03:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/03/08 03:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/03/08 03:25	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/03/08 03:25	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/03/08 03:25	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/03/08 03:25	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/03/08 03:25	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/03/08 03:25	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/03/08 03:25	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		11/03/08 03:25	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109	1		11/03/08 03:25	460-00-4	
Dibromofluoromethane (S)	90	%	85-115	1		11/03/08 03:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	79-120	1		11/03/08 03:25	17060-07-0	
Toluene-d8 (S)	92	%	70-120	1		11/03/08 03:25	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-15 **Lab ID: 9230428024** Collected: 10/21/08 11:40 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:34		
Collected Date	**10/21/08**			1		11/04/08 18:34		
Collected Time	**11:40**			1		11/04/08 18:34		
Field pH	**5.54**	Std. Units		1		11/04/08 18:34		
Field Temperature	**16.5**	deg C		1		11/04/08 18:34		
Static Water Level	**10.68**	feet		1		11/04/08 18:34		
Field Specific Conductance	**41**	umhos/cm		1		11/04/08 18:34		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7440-36-0	
Arsenic	**6.6**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7440-38-2	
Barium	**245**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7440-39-3	
Beryllium	**1.9**	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:58	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/27/08 20:58	7440-43-9	
Chromium	**6.8**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7440-47-3	
Cobalt	**18.4**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7440-48-4	
Copper	**9.7**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7440-50-8	
Lead	**25.9**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7439-92-1	
Nickel	**8.5**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:58	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/27/08 20:58	7440-28-0	
Vanadium	**14.8**	ug/L	5.0	1	10/26/08 08:00	10/27/08 20:58	7440-62-2	
Zinc	**71.5**	ug/L	10.0	1	10/26/08 08:00	10/27/08 20:58	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	**140**	ug/L	25.0	1		11/03/08 03:48	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/03/08 03:48	107-13-1	
Benzene	ND	ug/L	1.0	1		11/03/08 03:48	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/03/08 03:48	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/03/08 03:48	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/03/08 03:48	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/03/08 03:48	74-83-9	
2-Butanone (MEK)	**54.4**	ug/L	5.0	1		11/03/08 03:48	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/03/08 03:48	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/03/08 03:48	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/03/08 03:48	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/03/08 03:48	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/03/08 03:48	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/03/08 03:48	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		11/03/08 03:48	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/03/08 03:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/03/08 03:48	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/03/08 03:48	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 03:48	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 03:48	106-46-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: MW-15 **Lab ID: 9230428024** Collected: 10/21/08 11:40 Received: 10/21/08 18:00 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		11/03/08 03:48	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/03/08 03:48	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/03/08 03:48	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/03/08 03:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 03:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 03:48	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/03/08 03:48	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 03:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 03:48	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/03/08 03:48	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/03/08 03:48	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/03/08 03:48	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/03/08 03:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/03/08 03:48	108-10-1	
Styrene	ND	ug/L	1.0	1		11/03/08 03:48	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 03:48	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 03:48	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/03/08 03:48	127-18-4	
Toluene	ND	ug/L	1.0	1		11/03/08 03:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/03/08 03:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/03/08 03:48	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/03/08 03:48	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/03/08 03:48	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/03/08 03:48	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/03/08 03:48	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/03/08 03:48	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/03/08 03:48	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/03/08 03:48	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		11/03/08 03:48	95-47-6	
4-Bromofluorobenzene (S)	107	%	87-109	1		11/03/08 03:48	460-00-4	
Dibromofluoromethane (S)	99	%	85-115	1		11/03/08 03:48	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	79-120	1		11/03/08 03:48	17060-07-0	
Toluene-d8 (S)	95	%	70-120	1		11/03/08 03:48	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-5 **Lab ID: 9230428025** Collected: 10/21/08 16:15 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/04/08 18:35		
Collected Date	**10/21/08**			1		11/04/08 18:35		
Collected Time	**16:15**			1		11/04/08 18:35		
Field pH	**6.54**	Std. Units		1		11/04/08 18:35		
Field Temperature	**12.5**	deg C		1		11/04/08 18:35		
Field Specific Conductance	**205.6**	umhos/cm		1		11/04/08 18:35		
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina			Preparation Method: EPA 3010				
Antimony	**6.0**	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7440-38-2	
Barium	**289**	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/29/08 04:34	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/29/08 04:34	7440-43-9	
Chromium	**17.9**	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7440-47-3	
Cobalt	**34.4**	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7440-48-4	
Copper	**15.8**	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7440-50-8	
Lead	**5.4**	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7439-92-1	
Nickel	**12.1**	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7440-02-0	
Selenium	**14.0**	ug/L	10.0	1	10/26/08 08:00	10/29/08 04:34	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7440-22-4	
Thallium	**7.2**	ug/L	5.4	1	10/26/08 08:00	10/29/08 04:34	7440-28-0	
Vanadium	**43.5**	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:34	7440-62-2	
Zinc	**116**	ug/L	10.0	1	10/26/08 08:00	10/29/08 04:34	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/03/08 04:12	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/03/08 04:12	107-13-1	
Benzene	ND	ug/L	1.0	1		11/03/08 04:12	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/03/08 04:12	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/03/08 04:12	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/03/08 04:12	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/03/08 04:12	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/03/08 04:12	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/03/08 04:12	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/03/08 04:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/03/08 04:12	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/03/08 04:12	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/03/08 04:12	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/03/08 04:12	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		11/03/08 04:12	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/03/08 04:12	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/03/08 04:12	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/03/08 04:12	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 04:12	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 04:12	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		11/03/08 04:12	110-57-6	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: SW-5 **Lab ID: 9230428025** Collected: 10/21/08 16:15 Received: 10/21/08 18:00 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		11/03/08 04:12	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/03/08 04:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/03/08 04:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 04:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 04:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/03/08 04:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 04:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 04:12	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/03/08 04:12	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/03/08 04:12	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/03/08 04:12	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/03/08 04:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/03/08 04:12	108-10-1	
Styrene	ND	ug/L	1.0	1		11/03/08 04:12	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 04:12	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 04:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/03/08 04:12	127-18-4	
Toluene	ND	ug/L	1.0	1		11/03/08 04:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/03/08 04:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/03/08 04:12	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/03/08 04:12	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/03/08 04:12	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/03/08 04:12	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/03/08 04:12	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/03/08 04:12	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/03/08 04:12	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/03/08 04:12	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		11/03/08 04:12	95-47-6	
4-Bromofluorobenzene (S)	109	%	87-109	1		11/03/08 04:12	460-00-4	
Dibromofluoromethane (S)	99	%	85-115	1		11/03/08 04:12	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		11/03/08 04:12	17060-07-0	
Toluene-d8 (S)	95	%	70-120	1		11/03/08 04:12	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: TVL BLK **Lab ID: 9230428026** Collected: 10/20/08 00:00 Received: 10/21/08 18:00 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		11/03/08 04:36	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/03/08 04:36	107-13-1	
Benzene	ND	ug/L	1.0	1		11/03/08 04:36	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/03/08 04:36	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/03/08 04:36	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/03/08 04:36	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/03/08 04:36	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/03/08 04:36	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/03/08 04:36	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/03/08 04:36	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/03/08 04:36	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/03/08 04:36	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/03/08 04:36	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/03/08 04:36	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		11/03/08 04:36	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/03/08 04:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/03/08 04:36	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/03/08 04:36	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 04:36	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 04:36	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		11/03/08 04:36	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/03/08 04:36	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/03/08 04:36	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/03/08 04:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 04:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 04:36	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/03/08 04:36	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 04:36	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 04:36	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/03/08 04:36	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/03/08 04:36	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/03/08 04:36	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/03/08 04:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/03/08 04:36	108-10-1	
Styrene	ND	ug/L	1.0	1		11/03/08 04:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 04:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 04:36	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/03/08 04:36	127-18-4	
Toluene	ND	ug/L	1.0	1		11/03/08 04:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/03/08 04:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/03/08 04:36	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/03/08 04:36	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/03/08 04:36	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/03/08 04:36	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/03/08 04:36	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/03/08 04:36	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/03/08 04:36	1330-20-7	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: TVL BLK **Lab ID: 9230428026** Collected: 10/20/08 00:00 Received: 10/21/08 18:00 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		11/03/08 04:36	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		11/03/08 04:36	95-47-6	
4-Bromofluorobenzene (S)	109	%	87-109	1		11/03/08 04:36	460-00-4	
Dibromofluoromethane (S)	95	%	85-115	1		11/03/08 04:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	79-120	1		11/03/08 04:36	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		11/03/08 04:36	2037-26-5	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: EQUIP BLK **Lab ID: 9230428027** Collected: 10/20/08 00:00 Received: 10/21/08 18:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 GW North Carolina Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7440-38-2	
Barium	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/26/08 08:00	10/29/08 04:42	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/26/08 08:00	10/29/08 04:42	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7440-48-4	
Copper	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7440-50-8	
Lead	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/26/08 08:00	10/29/08 04:42	7782-49-2	
Silver	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/26/08 08:00	10/29/08 04:42	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/26/08 08:00	10/29/08 04:42	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/26/08 08:00	10/29/08 04:42	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/03/08 05:00	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/03/08 05:00	107-13-1	
Benzene	ND	ug/L	1.0	1		11/03/08 05:00	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/03/08 05:00	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/03/08 05:00	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/03/08 05:00	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/03/08 05:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/03/08 05:00	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/03/08 05:00	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/03/08 05:00	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/03/08 05:00	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/03/08 05:00	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/03/08 05:00	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/03/08 05:00	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	1		11/03/08 05:00	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/03/08 05:00	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/03/08 05:00	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/03/08 05:00	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 05:00	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/03/08 05:00	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		11/03/08 05:00	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/03/08 05:00	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/03/08 05:00	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/03/08 05:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 05:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/03/08 05:00	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/03/08 05:00	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 05:00	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/03/08 05:00	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/03/08 05:00	100-41-4	

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ANALYTICAL RESULTS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

Sample: EQUIP BLK **Lab ID: 9230428027** Collected: 10/20/08 00:00 Received: 10/21/08 18:00 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		11/03/08 05:00	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/03/08 05:00	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/03/08 05:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/03/08 05:00	108-10-1	
Styrene	ND	ug/L	1.0	1		11/03/08 05:00	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 05:00	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/03/08 05:00	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/03/08 05:00	127-18-4	
Toluene	ND	ug/L	1.0	1		11/03/08 05:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/03/08 05:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/03/08 05:00	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/03/08 05:00	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/03/08 05:00	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/03/08 05:00	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/03/08 05:00	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/03/08 05:00	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/03/08 05:00	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/03/08 05:00	1330-20-7	
o-Xylene	ND	ug/L	1.0	1		11/03/08 05:00	95-47-6	
4-Bromofluorobenzene (S)	107	%	87-109	1		11/03/08 05:00	460-00-4	
Dibromofluoromethane (S)	98	%	85-115	1		11/03/08 05:00	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		11/03/08 05:00	17060-07-0	
Toluene-d8 (S)	98	%	70-120	1		11/03/08 05:00	2037-26-5	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: WET/5926
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, Low Level
Associated Lab Samples: 9230428001

METHOD BLANK: 185869
Matrix: Water
Associated Lab Samples: 9230428001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/27/08 08:00	

LABORATORY CONTROL SAMPLE: 185870

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	176	89	84-115	

SAMPLE DUPLICATE: 185871

Parameter	Units	9230422001 Result	Dup Result	RPD	Qualifiers
BOD, 5 day	mg/L	222	172	25	R1

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: MPRP/3223 — Analysis Method: EPA 6010 GW North Carolina
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 9230428002, 9230428003, 9230428004, 9230428005, 9230428006, 9230428007, 9230428008, 9230428009, 9230428010, 9230428011, 9230428012

METHOD BLANK: 185940 — Matrix: Water
Associated Lab Samples: 9230428002, 9230428003, 9230428004, 9230428005, 9230428006, 9230428007, 9230428008, 9230428009, 9230428010, 9230428011, 9230428012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	10/23/08 21:23	
Arsenic	ug/L	ND	5.0	10/23/08 21:23	
Barium	ug/L	ND	5.0	10/23/08 21:23	
Beryllium	ug/L	ND	1.0	10/23/08 21:23	
Cadmium	ug/L	ND	1.0	10/23/08 21:23	
Chromium	ug/L	ND	5.0	10/23/08 21:23	
Cobalt	ug/L	ND	5.0	10/23/08 21:23	
Copper	ug/L	ND	5.0	10/23/08 21:23	
Lead	ug/L	ND	5.0	10/23/08 21:23	
Nickel	ug/L	ND	5.0	10/23/08 21:23	
Selenium	ug/L	ND	10.0	10/23/08 21:23	
Silver	ug/L	ND	5.0	10/23/08 21:23	
Thallium	ug/L	ND	5.4	10/23/08 21:23	
Vanadium	ug/L	ND	5.0	10/23/08 21:23	
Zinc	ug/L	ND	10.0	10/23/08 21:23	

LABORATORY CONTROL SAMPLE: 185941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	509	102	80-120	
Arsenic	ug/L	500	506	101	80-120	
Barium	ug/L	500	498	100	80-120	
Beryllium	ug/L	500	508	102	80-120	
Cadmium	ug/L	500	510	102	80-120	
Chromium	ug/L	500	509	102	80-120	
Cobalt	ug/L	500	500	100	80-120	
Copper	ug/L	500	497	99	80-120	
Lead	ug/L	500	512	102	80-120	
Nickel	ug/L	500	509	102	80-120	
Selenium.	ug/L	500	488	98	80-120	
Silver	ug/L	250	252	101	80-120	
Thallium	ug/L	500	424	85	80-120	
Vanadium	ug/L	500	506	101	80-120	
Zinc	ug/L	500	507	101	80-120	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

MATRIX SPIKE SAMPLE: 185942

Parameter	Units	9230184006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	ND	500	500	100	75-125	
Arsenic	ug/L	4.4J	500	501	99	75-125	
Barium	ug/L	41.2J	500	522	96	75-125	
Beryllium	ug/L	ND	500	497	99	75-125	
Cadmium	ug/L	ND	500	496	99	75-125	
Chromium	ug/L	ND	500	495	99	75-125	
Cobalt	ug/L	4.7J	500	490	97	75-125	
Copper	ug/L	0.41J	500	489	98	75-125	
Lead	ug/L	ND	500	495	99	75-125	
Nickel	ug/L	ND	500	494	99	75-125	
Selenium	ug/L	8.5J	500	485	95	75-125	
Silver	ug/L	0.11J	250	246	98	75-125	
Thallium	ug/L	21.1	500	418	79	75-125	
Vanadium	ug/L	1.1J	500	498	99	75-125	
Zinc	ug/L	5.1J	500	504	100	75-125	

SAMPLE DUPLICATE: 185943

Parameter	Units	9230184007 Result	Dup Result	RPD	Qualifiers
Antimony	ug/L	ND	ND		
Arsenic	ug/L	ND	ND		
Barium	ug/L	ND	ND		
Beryllium	ug/L	ND	ND		
Cadmium	ug/L	ND	ND		
Chromium	ug/L	ND	ND		
Cobalt	ug/L	3.6J	3.6J		
Copper	ug/L	ND	ND		
Lead	ug/L	ND	ND		
Nickel	ug/L	ND	ND		
Selenium	ug/L	5.6J	ND		
Silver	ug/L	ND	ND		
Thallium	ug/L	18.9	8.5	76	R1
Vanadium	ug/L	ND	ND		
Zinc	ug/L	14.5	11.7	21	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: WETA/3711
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 9230428001

METHOD BLANK: 186119
Matrix: Water
Associated Lab Samples: 9230428001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	10/22/08 14:09	
Nitrogen, Nitrite	mg/L	ND	0.10	10/22/08 14:09	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	10/22/08 14:09	

LABORATORY CONTROL SAMPLE: 186120

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	5	5.1	103	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	108	90-110	
Nitrogen, NO2 plus NO3	mg/L	5	5.1	103	90-110	

MATRIX SPIKE SAMPLE: 186121

Parameter	Units	9230428001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	5	5.0	101	90-110	
Nitrogen, Nitrite	mg/L	0.14	1	1.2	105	90-110	
Nitrogen, NO2 plus NO3	mg/L	0.14	5	5.0	98	90-110	

SAMPLE DUPLICATE: 186122

Parameter	Units	9230415002 Result	Dup Result	RPD	Qualifiers
Nitrogen, Nitrate	mg/L	18.0	17.9	.6	
Nitrogen, Nitrite	mg/L	ND	ND		
Nitrogen, NO2 plus NO3	mg/L	18.0	17.9	.6	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: MSV/5002 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9230428001, 9230428002, 9230428003, 9230428004, 9230428005, 9230428006, 9230428007, 9230428008, 9230428009, 9230428010, 9230428011, 9230428012

METHOD BLANK: 186127 — Matrix: Water
Associated Lab Samples: 9230428001, 9230428002, 9230428003, 9230428004, 9230428005, 9230428006, 9230428007, 9230428008, 9230428009, 9230428010, 9230428011, 9230428012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	10/22/08 12:39	
1,1,1-Trichloroethane	ug/L	ND	1.0	10/22/08 12:39	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/22/08 12:39	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/22/08 12:39	
1,1-Dichloroethane	ug/L	ND	1.0	10/22/08 12:39	
1,1-Dichloroethene	ug/L	ND	1.0	10/22/08 12:39	
1,1-Dichloropropene	ug/L	ND	1.0	10/22/08 12:39	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	10/22/08 12:39	
1,2,3-Trichloropropane	ug/L	ND	1.0	10/22/08 12:39	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	10/22/08 12:39	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	10/22/08 12:39	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	10/22/08 12:39	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/22/08 12:39	
1,2-Dichloroethane	ug/L	ND	1.0	10/22/08 12:39	
1,2-Dichloropropane	ug/L	ND	1.0	10/22/08 12:39	
1,3-Dichlorobenzene	ug/L	ND	1.0	10/22/08 12:39	
1,3-Dichloropropane	ug/L	ND	1.0	10/22/08 12:39	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/22/08 12:39	
2,2-Dichloropropane	ug/L	ND	1.0	10/22/08 12:39	
2-Butanone (MEK)	ug/L	ND	5.0	10/22/08 12:39	
2-Chlorotoluene	ug/L	ND	1.0	10/22/08 12:39	
2-Hexanone	ug/L	ND	5.0	10/22/08 12:39	
4-Chlorotoluene	ug/L	ND	1.0	10/22/08 12:39	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	10/22/08 12:39	
Acetone	ug/L	ND	25.0	10/22/08 12:39	
Acrylonitrile	ug/L	ND	10.0	10/22/08 12:39	
Benzene	ug/L	ND	1.0	10/22/08 12:39	
Bromobenzene	ug/L	ND	1.0	10/22/08 12:39	
Bromochloromethane	ug/L	ND	1.0	10/22/08 12:39	
Bromodichloromethane	ug/L	ND	1.0	10/22/08 12:39	
Bromoform	ug/L	ND	1.0	10/22/08 12:39	
Bromomethane	ug/L	ND	5.0	10/22/08 12:39	
Carbon disulfide	ug/L	ND	2.0	10/22/08 12:39	
Carbon tetrachloride	ug/L	ND	1.0	10/22/08 12:39	
Chlorobenzene	ug/L	ND	1.0	10/22/08 12:39	
Chloroethane	ug/L	ND	1.0	10/22/08 12:39	
Chloroform	ug/L	ND	1.0	10/22/08 12:39	
Chloromethane	ug/L	ND	1.0	10/22/08 12:39	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/22/08 12:39	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/22/08 12:39	
Dibromochloromethane	ug/L	ND	1.0	10/22/08 12:39	

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(704)875-9092

QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

METHOD BLANK: 186127 Matrix: Water

Associated Lab Samples: 9230428001, 9230428002, 9230428003, 9230428004, 9230428005, 9230428006, 9230428007, 9230428008, 9230428009, 9230428010, 9230428011, 9230428012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	1.0	10/22/08 12:39	
Dichlorodifluoromethane	ug/L	ND	1.0	10/22/08 12:39	
Diisopropyl ether	ug/L	ND	1.0	10/22/08 12:39	
Ethylbenzene	ug/L	ND	1.0	10/22/08 12:39	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	10/22/08 12:39	
Iodomethane	ug/L	ND	5.0	10/22/08 12:39	
m&p-Xylene	ug/L	ND	2.0	10/22/08 12:39	
Methyl-tert-butyl ether	ug/L	ND	1.0	10/22/08 12:39	
Methylene Chloride	ug/L	ND	2.0	10/22/08 12:39	
Naphthalene	ug/L	ND	1.0	10/22/08 12:39	
o-Xylene	ug/L	ND	1.0	10/22/08 12:39	
p-Isopropyltoluene	ug/L	ND	1.0	10/22/08 12:39	
Styrene	ug/L	ND	1.0	10/22/08 12:39	
Tetrachloroethene	ug/L	ND	1.0	10/22/08 12:39	
Toluene	ug/L	ND	1.0	10/22/08 12:39	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/22/08 12:39	
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/22/08 12:39	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	10/22/08 12:39	
Trichloroethene	ug/L	ND	1.0	10/22/08 12:39	
Trichlorofluoromethane	ug/L	ND	1.0	10/22/08 12:39	
Vinyl acetate	ug/L	ND	2.0	10/22/08 12:39	
Vinyl chloride	ug/L	ND	1.0	10/22/08 12:39	
Xylene (Total)	ug/L	ND	2.0	10/22/08 12:39	
1,2-Dichloroethane-d4 (S)	%	97	79-120	10/22/08 12:39	
4-Bromofluorobenzene (S)	%	99	87-109	10/22/08 12:39	
Dibromofluoromethane (S)	%	97	85-115	10/22/08 12:39	
Toluene-d8 (S)	%	100	70-120	10/22/08 12:39	

LABORATORY CONTROL SAMPLE: 186128

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	44.8	90	83-125	
1,1,1-Trichloroethane	ug/L	50	46.8	94	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	44.3	89	73-127	
1,1,2-Trichloroethane	ug/L	50	47.8	96	77-123	
1,1-Dichloroethane	ug/L	50	49.5	99	76-129	
1,1-Dichloroethene	ug/L	50	53.0	106	78-146	
1,1-Dichloropropene	ug/L	50	51.4	103	79-134	
1,2,3-Trichlorobenzene	ug/L	50	56.6	113	70-150	
1,2,3-Trichloropropane	ug/L	50	42.9	86	72-125	
1,2,4-Trichlorobenzene	ug/L	50	52.9	106	68-127	
1,2-Dibromo-3-chloropropane	ug/L	50	44.1	88	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	46.5	93	81-125	
1,2-Dichlorobenzene	ug/L	50	49.3	99	82-126	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

LABORATORY CONTROL SAMPLE: 186128

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	46.3	93	72-126	
1,2-Dichloropropane	ug/L	50	52.2	104	80-127	
1,3-Dichlorobenzene	ug/L	50	48.4	97	82-124	
1,3-Dichloropropane	ug/L	50	48.5	97	79-124	
1,4-Dichlorobenzene	ug/L	50	47.9	96	79-125	
2,2-Dichloropropane	ug/L	50	49.0	98	58-140	
2-Butanone (MEK)	ug/L	100	99.8	100	50-134	
2-Chlorotoluene	ug/L	50	49.6	99	81-126	
2-Hexanone	ug/L	100	92.6	93	58-138	
4-Chlorotoluene	ug/L	50	52.1	104	82-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.7	95	70-131	
Acetone	ug/L	100	89.6	90	50-146	
Acrylonitrile	ug/L	250	239	96	66-124	
Benzene	ug/L	50	50.1	100	78-128	
Bromobenzene	ug/L	50	49.9	100	81-127	
Bromochloromethane	ug/L	50	47.2	94	73-124	
Bromodichloromethane	ug/L	50	47.3	95	81-125	
Bromoform	ug/L	50	43.3	87	71-125	
Bromomethane	ug/L	50	33.4	67	50-150	
Carbon disulfide	ug/L	50	48.5	97	54-150	
Carbon tetrachloride	ug/L	50	46.5	93	81-137	
Chlorobenzene	ug/L	50	46.8	94	82-126	
Chloroethane	ug/L	50	54.4	109	69-140	
Chloroform	ug/L	50	47.8	96	77-129	
Chloromethane	ug/L	50	48.1	96	54-139	
cis-1,2-Dichloroethene	ug/L	50	51.0	102	76-133	
cis-1,3-Dichloropropene	ug/L	50	51.8	104	76-127	
Dibromochloromethane	ug/L	50	45.0	90	77-125	
Dibromomethane	ug/L	50	48.8	98	77-125	
Dichlorodifluoromethane	ug/L	50	41.8	84	50-150	
Diisopropyl ether	ug/L	50	50.3	101	74-131	
Ethylbenzene	ug/L	50	47.4	95	80-127	
Hexachloro-1,3-butadiene	ug/L	50	56.8	114	78-145	
Iodomethane	ug/L	100	98.7	99	65-172	
m&p-Xylene	ug/L	100	96.7	97	82-127	
Methyl-tert-butyl ether	ug/L	50	50.5	101	71-130	
Methylene Chloride	ug/L	50	45.4	91	67-133	
Naphthalene	ug/L	50	49.9	100	52-136	
o-Xylene	ug/L	50	48.5	97	83-124	
p-Isopropyltoluene	ug/L	50	48.5	97	73-122	
Styrene	ug/L	50	51.1	102	80-130	
Tetrachloroethene	ug/L	50	43.3	87	78-128	
Toluene	ug/L	50	47.4	95	76-126	
trans-1,2-Dichloroethene	ug/L	50	49.0	98	78-134	
trans-1,3-Dichloropropene	ug/L	50	50.6	101	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	42.0	84	51-140	
Trichloroethene	ug/L	50	46.0	92	79-127	
Trichlorofluoromethane	ug/L	50	40.8	82	76-148	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

LABORATORY CONTROL SAMPLE: 186128

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl acetate	ug/L	100	136	136	50-150	
Vinyl chloride	ug/L	50	54.6	109	67-143	
Xylene (Total)	ug/L	150	145	97	83-125	
1,2-Dichloroethane-d4 (S)	%			101	79-120	
4-Bromofluorobenzene (S)	%			99	87-109	
Dibromofluoromethane (S)	%			99	85-115	
Toluene-d8 (S)	%			101	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 186130 186131

Parameter	Units	9230428012 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	48.7	49.0	97	98	60-150	.5	
Benzene	ug/L	ND	50	50	49.1	49.6	98	99	74-136	1	
Chlorobenzene	ug/L	ND	50	50	46.6	47.7	93	95	79-135	2	
Toluene	ug/L	ND	50	50	46.1	46.9	92	94	73-131	2	
Trichloroethene	ug/L	ND	50	50	44.8	45.8	90	92	73-131	2	
1,2-Dichloroethane-d4 (S)	%						100	99	79-120		
4-Bromofluorobenzene (S)	%						99	100	87-109		
Dibromofluoromethane (S)	%						99	98	85-115		
Toluene-d8 (S)	%						100	101	70-120		

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: WETA/3740
QC Batch Method: ASTM D516-90
Analysis Method: ASTM D516-90
Analysis Description: ASTM D516-90 Sulfate Water
Associated Lab Samples: 9230428001

METHOD BLANK: 187641
Matrix: Water
Associated Lab Samples: 9230428001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	10/24/08 14:30	

LABORATORY CONTROL SAMPLE: 187642

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	20.4	102	90-110	

MATRIX SPIKE SAMPLE: 187643

Parameter	Units	9230670005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	21.7	98	75-125	

MATRIX SPIKE SAMPLE: 187648

Parameter	Units	9230518003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	160	20	157	-14	75-125	M0

SAMPLE DUPLICATE: 187647

Parameter	Units	9230670006 Result	Dup Result	RPD	Qualifiers
Sulfate	mg/L	ND	ND		

SAMPLE DUPLICATE: 187649

Parameter	Units	9230518004 Result	Dup Result	RPD	Qualifiers
Sulfate	mg/L	16.1	16.2	.5	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: MPRP/3237
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 9230428001

METHOD BLANK: 187968
Matrix: Water
Associated Lab Samples: 9230428001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	100	10/27/08 16:08	
Antimony	ug/L	ND	5.0	10/27/08 16:08	
Arsenic	ug/L	ND	5.0	10/27/08 16:08	
Barium	ug/L	ND	5.0	10/27/08 16:08	
Beryllium	ug/L	ND	1.0	10/27/08 16:08	
Boron	ug/L	ND	50.0	10/27/08 16:08	
Cadmium	ug/L	ND	1.0	10/27/08 16:08	
Calcium	ug/L	ND	100	10/27/08 16:08	
Chromium	ug/L	ND	5.0	10/27/08 16:08	
Cobalt	ug/L	ND	5.0	10/27/08 16:08	
Copper	ug/L	ND	5.0	10/27/08 16:08	
Iron	ug/L	ND	50.0	10/27/08 16:08	
Lead	ug/L	ND	5.0	10/27/08 16:08	
Magnesium	ug/L	ND	100	10/27/08 16:08	
Manganese	ug/L	ND	5.0	10/27/08 16:08	
Molybdenum	ug/L	ND	5.0	10/27/08 16:08	
Nickel	ug/L	ND	5.0	10/27/08 16:08	
Potassium	ug/L	ND	5000	10/27/08 16:08	
Selenium	ug/L	ND	10.0	10/27/08 16:08	
Silica	ug/L	ND	210	10/27/08 16:08	
Silicon	ug/L	ND	100	10/27/08 16:08	
Silver	ug/L	ND	5.0	10/27/08 16:08	
Sodium	ug/L	ND	5000	10/27/08 16:08	
Strontium	ug/L	ND	5.0	10/27/08 16:08	
Thallium	ug/L	ND	10.0	10/27/08 16:08	
Tin	ug/L	ND	5.0	10/27/08 16:08	
Titanium	ug/L	ND	5.0	10/27/08 16:08	
Vanadium	ug/L	ND	5.0	10/27/08 16:08	
Zinc	ug/L	ND	10.0	10/27/08 16:08	

LABORATORY CONTROL SAMPLE: 187969

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4780	96	80-120	
Antimony	ug/L	500	493	99	80-120	
Arsenic	ug/L	500	488	98	80-120	
Barium	ug/L	500	479	96	80-120	
Beryllium	ug/L	500	488	98	80-120	
Boron	ug/L	500	455	91	80-120	
Cadmium	ug/L	500	488	98	80-120	
Calcium	ug/L	5000	4950	99	80-120	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

LABORATORY CONTROL SAMPLE: 187969

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	499	100	80-120	
Cobalt	ug/L	500	486	97	80-120	
Copper	ug/L	500	487	97	80-120	
Iron	ug/L	5000	5070	101	80-120	
Lead	ug/L	500	494	99	80-120	
Magnesium	ug/L	5000	4920	98	80-120	
Manganese	ug/L	500	500	100	80-120	
Molybdenum	ug/L	500	480	96	80-120	
Nickel	ug/L	500	495	99	80-120	
Potassium	ug/L	5000	4660J	93	80-120	
Selenium	ug/L	500	463	93	80-120	
Silica	ug/L		5230			
Silicon	ug/L	2500	2440	98	80-120	
Silver	ug/L	250	246	98	80-120	
Sodium	ug/L	5000	4920J	98	80-120	
Strontium	ug/L	500	492	98	80-120	
Thallium	ug/L	500	459	92	80-120	
Tin	ug/L	500	500	100	80-120	
Titanium	ug/L	500	493	99	80-120	
Vanadium	ug/L	500	492	98	80-120	
Zinc	ug/L	500	492	98	80-120	

MATRIX SPIKE SAMPLE: 187970

Parameter	Units	9230564017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	56.7J	5000	4840	96	75-125	
Antimony	ug/L	ND	500	482	96	75-125	
Arsenic	ug/L	ND	500	481	96	75-125	
Barium	ug/L	12.0	500	465	91	75-125	
Beryllium	ug/L	ND	500	467	93	75-125	
Boron	ug/L	42.9J	500	493	90	75-125	
Cadmium	ug/L	ND	500	460	92	75-125	
Calcium	ug/L	71700	5000	76700	101	75-125	
Chromium	ug/L	ND	500	469	94	75-125	
Cobalt	ug/L	6.0	500	456	90	75-125	
Copper	ug/L	ND	500	475	95	75-125	
Iron	ug/L	6270	5000	10900	93	75-125	
Lead	ug/L	ND	500	463	93	75-125	
Magnesium	ug/L	2480	5000	7190	94	75-125	
Manganese	ug/L	127	500	593	93	75-125	
Molybdenum	ug/L	5.2	500	461	91	75-125	
Nickel	ug/L	ND	500	461	92	75-125	
Potassium	ug/L	6680	5000	13000	126	75-125	M0
Selenium	ug/L	4.7J	500	464	92	75-125	
Silica	ug/L	7200		12500			
Silicon	ug/L	3370	2500	5860	100	75-125	
Silver	ug/L	0.11J	250	236	94	75-125	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

MATRIX SPIKE SAMPLE: 187970

Parameter	Units	9230564017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sodium	ug/L	12400	5000	17900	111	75-125	
Strontium	ug/L	119	500	585	93	75-125	
Thallium	ug/L	6.2J	500	434	86	75-125	
Tin	ug/L	ND	500	476	95	75-125	
Titanium	ug/L	1.1J	500	475	95	75-125	
Vanadium	ug/L	0.76J	500	473	94	75-125	
Zinc	ug/L	12.0	500	480	94	75-125	

SAMPLE DUPLICATE: 187971

Parameter	Units	9230311006 Result	Dup Result	RPD	Qualifiers
Aluminum	ug/L	161	152	6	
Antimony	ug/L	ND	ND		
Arsenic	ug/L	ND	ND		
Barium	ug/L	27.4	26.4	4	
Beryllium	ug/L	ND	ND		
Boron	ug/L	ND	22.8J		
Cadmium	ug/L	ND	ND		
Calcium	ug/L	950	917	4	
Chromium	ug/L	ND	ND		
Cobalt	ug/L	13.8	13.3	4	
Copper	ug/L	ND	1J		
Iron	ug/L	5480	5280	4	
Lead	ug/L	ND	ND		
Magnesium	ug/L	178	171	4	
Manganese	ug/L	1550	1500	3	
Molybdenum	ug/L	6.7	2.5J		
Nickel	ug/L	ND	ND		
Potassium	ug/L	ND	669J		
Selenium	ug/L	ND	ND		
Silica	ug/L	6250	6050	3	
Silicon	ug/L	2920	2830	3	
Silver	ug/L	ND	ND		
Sodium	ug/L	6520	6280	4	
Strontium	ug/L	6.2	5.9	4	
Thallium	ug/L	ND	ND		
Tin	ug/L	ND	ND		
Titanium	ug/L	ND	3.5J		
Vanadium	ug/L	ND	.22J		
Zinc	ug/L	20.6	19.3	7	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: MPRP/3240 — Analysis Method: EPA 6010 GW North Carolina
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 9230428013, 9230428015, 9230428016, 9230428017, 9230428018, 9230428019, 9230428020, 9230428021, 9230428022, 9230428023, 9230428024

METHOD BLANK: 188403 — Matrix: Water
Associated Lab Samples: 9230428013, 9230428015, 9230428016, 9230428017, 9230428018, 9230428019, 9230428020, 9230428021, 9230428022, 9230428023, 9230428024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	10/27/08 19:18	
Arsenic	ug/L	ND	5.0	10/27/08 19:18	
Barium	ug/L	ND	5.0	10/27/08 19:18	
Beryllium	ug/L	ND	1.0	10/27/08 19:18	
Cadmium	ug/L	ND	1.0	10/27/08 19:18	
Chromium	ug/L	ND	5.0	10/27/08 19:18	
Cobalt	ug/L	ND	5.0	10/27/08 19:18	
Copper	ug/L	ND	5.0	10/27/08 19:18	
Lead	ug/L	ND	5.0	10/27/08 19:18	
Nickel	ug/L	ND	5.0	10/27/08 19:18	
Selenium	ug/L	ND	10.0	10/27/08 19:18	
Silver	ug/L	ND	5.0	10/27/08 19:18	
Thallium	ug/L	ND	5.4	10/27/08 19:18	
Vanadium	ug/L	ND	5.0	10/27/08 19:18	
Zinc	ug/L	ND	10.0	10/27/08 19:18	

LABORATORY CONTROL SAMPLE: 188404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	514	103	80-120	
Arsenic	ug/L	500	510	102	80-120	
Barium	ug/L	500	497	99	80-120	
Beryllium	ug/L	500	504	101	80-120	
Cadmium	ug/L	500	510	102	80-120	
Chromium	ug/L	500	516	103	80-120	
Cobalt	ug/L	500	506	101	80-120	
Copper	ug/L	500	506	101	80-120	
Lead	ug/L	500	512	102	80-120	
Nickel	ug/L	500	512	102	80-120	
Selenium	ug/L	500	494	99	80-120	
Silver	ug/L	250	255	102	80-120	
Thallium	ug/L	500	482	96	80-120	
Vanadium	ug/L	500	511	102	80-120	
Zinc	ug/L	500	510	102	80-120	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

MATRIX SPIKE SAMPLE: 188405

Parameter	Units	9230284014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	ND	500	463	92	75-125	
Arsenic	ug/L	3.0J	500	469	93	75-125	
Barium	ug/L	327	500	736	82	75-125	
Beryllium	ug/L	0.53J	500	457	91	75-125	
Cadmium	ug/L	ND	500	462	92	75-125	
Chromium	ug/L	4.3J	500	471	93	75-125	
Cobalt	ug/L	10.8	500	458	89	75-125	
Copper	ug/L	2.3J	500	462	92	75-125	
Lead	ug/L	ND	500	463	92	75-125	
Nickel	ug/L	4.9J	500	466	92	75-125	
Selenium	ug/L	3.9J	500	451	89	75-125	
Silver	ug/L	ND	250	238	95	75-125	
Thallium	ug/L	5.4J	500	439	87	75-125	
Vanadium	ug/L	5.2J	500	468	93	75-125	
Zinc	ug/L	26.4	500	472	89	75-125	

SAMPLE DUPLICATE: 188406

Parameter	Units	9230284015 Result	Dup Result	RPD	Qualifiers
Antimony	ug/L	ND	ND		
Arsenic	ug/L	4.2J	ND		
Barium	ug/L	529	593	11	
Beryllium	ug/L	0.39J	.37J		
Cadmium	ug/L	ND	ND		
Chromium	ug/L	2.6J	2.8J		
Cobalt	ug/L	14.3	15.8	10	
Copper	ug/L	10.8	11.6	7	
Lead	ug/L	4.4J	4.6J		
Nickel	ug/L	4.7J	5.2		
Selenium	ug/L	6.5J	ND		
Silver	ug/L	0.19J	.11J		
Thallium	ug/L	5.8	ND		
Vanadium	ug/L	14.5J	15.2	5	
Zinc	ug/L	25.1	25.8	3	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: MPRP/3243
QC Batch Method: EPA 3010
Analysis Method: EPA 6010 GW North Carolina
Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 9230428025, 9230428027

METHOD BLANK: 188415
Matrix: Water
Associated Lab Samples: 9230428025, 9230428027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	10/29/08 04:26	
Arsenic	ug/L	ND	5.0	10/29/08 04:26	
Barium	ug/L	ND	5.0	10/29/08 04:26	
Beryllium	ug/L	ND	1.0	10/29/08 04:26	
Cadmium	ug/L	ND	1.0	10/29/08 04:26	
Chromium	ug/L	ND	5.0	10/29/08 04:26	
Cobalt	ug/L	ND	5.0	10/29/08 04:26	
Copper	ug/L	ND	5.0	10/29/08 04:26	
Lead	ug/L	ND	5.0	10/29/08 04:26	
Nickel	ug/L	ND	5.0	10/29/08 04:26	
Selenium	ug/L	ND	10.0	10/29/08 04:26	
Silver	ug/L	ND	5.0	10/29/08 04:26	
Thallium	ug/L	ND	5.4	10/29/08 04:26	
Vanadium	ug/L	ND	5.0	10/29/08 04:26	
Zinc	ug/L	ND	10.0	10/29/08 04:26	

LABORATORY CONTROL SAMPLE: 188416

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	516	103	80-120	
Arsenic	ug/L	500	519	104	80-120	
Barium	ug/L	500	502	100	80-120	
Beryllium	ug/L	500	495	99	80-120	
Cadmium	ug/L	500	504	101	80-120	
Chromium	ug/L	500	505	101	80-120	
Cobalt	ug/L	500	500	100	80-120	
Copper	ug/L	500	516	103	80-120	
Lead	ug/L	500	513	103	80-120	
Nickel	ug/L	500	503	101	80-120	
Selenium	ug/L	500	513	103	80-120	
Silver	ug/L	250	252	101	80-120	
Thallium	ug/L	500	483	97	80-120	
Vanadium	ug/L	500	505	101	80-120	
Zinc	ug/L	500	499	100	80-120	

MATRIX SPIKE SAMPLE: 188417

Parameter	Units	9230428025 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	6.0	500	487	96	75-125	
Arsenic	ug/L	ND	500	500	99	75-125	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

MATRIX SPIKE SAMPLE: 188417

Parameter	Units	9230428025 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	289	500	782	99	75-125	
Beryllium	ug/L	ND	500	475	95	75-125	
Cadmium	ug/L	ND	500	464	93	75-125	
Chromium	ug/L	17.9	500	492	95	75-125	
Cobalt	ug/L	34.4	500	504	94	75-125	
Copper	ug/L	15.8	500	513	99	75-125	
Lead	ug/L	5.4	500	476	94	75-125	
Nickel	ug/L	12.1	500	483	94	75-125	
Selenium	ug/L	14.0	500	497	97	75-125	
Silver	ug/L	ND	250	242	96	75-125	
Thallium	ug/L	7.2	500	448	88	75-125	
Vanadium	ug/L	43.5	500	516	94	75-125	
Zinc	ug/L	116	500	586	94	75-125	

SAMPLE DUPLICATE: 188418

Parameter	Units	9230428027 Result	Dup Result	RPD	Qualifiers
Antimony	ug/L	ND	ND		
Arsenic	ug/L	ND	ND		
Barium	ug/L	ND	ND		
Beryllium	ug/L	ND	ND		
Cadmium	ug/L	ND	ND		
Chromium	ug/L	ND	ND		
Cobalt	ug/L	ND	4.4J		
Copper	ug/L	ND	ND		
Lead	ug/L	ND	ND		
Nickel	ug/L	ND	ND		
Selenium	ug/L	ND	ND		
Silver	ug/L	ND	ND		
Thallium	ug/L	ND	ND		
Vanadium	ug/L	ND	ND		
Zinc	ug/L	ND	ND		

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: WETA/3778
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Phosphorus, Total
Associated Lab Samples: 9230428001

METHOD BLANK: 190204
Matrix: Water
Associated Lab Samples: 9230428001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	mg/L	ND	0.10	10/31/08 11:02	

LABORATORY CONTROL SAMPLE: 190205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	1	1.0	103	90-110	

MATRIX SPIKE SAMPLE: 190206

Parameter	Units	9229907001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	ND	1	1.1	104	90-110	

MATRIX SPIKE SAMPLE: 190208

Parameter	Units	9230457002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	0.72	1	1.7	97	90-110	

SAMPLE DUPLICATE: 190207

Parameter	Units	9229908001 Result	Dup Result	RPD	Qualifiers
Phosphorus	mg/L	ND	ND		

SAMPLE DUPLICATE: 190209

Parameter	Units	9230455005 Result	Dup Result	RPD	Qualifiers
Phosphorus	mg/L	23.7	23.8	.7	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: MSV/5082 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9230428014, 9230428015, 9230428016, 9230428017, 9230428018, 9230428019

METHOD BLANK: 190507 Matrix: Water
Associated Lab Samples: 9230428014, 9230428015, 9230428016, 9230428017, 9230428018, 9230428019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	10/31/08 17:11	
1,1,1-Trichloroethane	ug/L	ND	1.0	10/31/08 17:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/31/08 17:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/31/08 17:11	
1,1-Dichloroethane	ug/L	ND	1.0	10/31/08 17:11	
1,1-Dichloroethene	ug/L	ND	1.0	10/31/08 17:11	
1,2,3-Trichloropropane	ug/L	ND	1.0	10/31/08 17:11	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	10/31/08 17:11	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	10/31/08 17:11	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/31/08 17:11	
1,2-Dichloroethane	ug/L	ND	1.0	10/31/08 17:11	
1,2-Dichloropropane	ug/L	ND	1.0	10/31/08 17:11	
1,3-Dichloropropane	ug/L	ND	1.0	10/31/08 17:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/31/08 17:11	
2-Butanone (MEK)	ug/L	ND	5.0	10/31/08 17:11	
2-Hexanone	ug/L	ND	5.0	10/31/08 17:11	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	10/31/08 17:11	
Acetone	ug/L	ND	25.0	10/31/08 17:11	
Acrylonitrile	ug/L	ND	10.0	10/31/08 17:11	
Benzene	ug/L	ND	1.0	10/31/08 17:11	
Bromochloromethane	ug/L	ND	1.0	10/31/08 17:11	
Bromodichloromethane	ug/L	ND	1.0	10/31/08 17:11	
Bromoform	ug/L	ND	1.0	10/31/08 17:11	
Bromomethane	ug/L	ND	5.0	10/31/08 17:11	
Carbon disulfide	ug/L	ND	2.0	10/31/08 17:11	
Carbon tetrachloride	ug/L	ND	1.0	10/31/08 17:11	
Chlorobenzene	ug/L	ND	1.0	10/31/08 17:11	
Chloroethane	ug/L	ND	1.0	10/31/08 17:11	
Chloroform	ug/L	ND	1.0	10/31/08 17:11	
Chloromethane	ug/L	ND	1.0	10/31/08 17:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/31/08 17:11	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/31/08 17:11	
Dibromochloromethane	ug/L	ND	1.0	10/31/08 17:11	
Dibromomethane	ug/L	ND	1.0	10/31/08 17:11	
Ethylbenzene	ug/L	ND	1.0	10/31/08 17:11	
Iodomethane	ug/L	ND	5.0	10/31/08 17:11	
m&p-Xylene	ug/L	ND	2.0	10/31/08 17:11	
Methylene Chloride	ug/L	ND	2.0	10/31/08 17:11	
o-Xylene	ug/L	ND	1.0	10/31/08 17:11	
Styrene	ug/L	ND	1.0	10/31/08 17:11	
Tetrachloroethene	ug/L	ND	1.0	10/31/08 17:11	
Toluene	ug/L	ND	1.0	10/31/08 17:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/31/08 17:11	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

METHOD BLANK: 190507 Matrix: Water

Associated Lab Samples: 9230428014, 9230428015, 9230428016, 9230428017, 9230428018, 9230428019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/31/08 17:11	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	10/31/08 17:11	
Trichloroethene	ug/L	ND	1.0	10/31/08 17:11	
Trichlorofluoromethane	ug/L	ND	1.0	10/31/08 17:11	
Vinyl acetate	ug/L	ND	2.0	10/31/08 17:11	
Vinyl chloride	ug/L	ND	1.0	10/31/08 17:11	
Xylene (Total)	ug/L	ND	2.0	10/31/08 17:11	
1,2-Dichloroethane-d4 (S)	%	106	79-120	10/31/08 17:11	
4-Bromofluorobenzene (S)	%	102	87-109	10/31/08 17:11	
Dibromofluoromethane (S)	%	99	85-115	10/31/08 17:11	
Toluene-d8 (S)	%	97	70-120	10/31/08 17:11	

LABORATORY CONTROL SAMPLE: 190508

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	47.8	96	83-125	
1,1,1-Trichloroethane	ug/L	50	55.6	111	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	48.0	96	73-127	
1,1,2-Trichloroethane	ug/L	50	50.2	100	77-123	
1,1-Dichloroethane	ug/L	50	56.5	113	76-129	
1,1-Dichloroethene	ug/L	50	49.6	99	78-146	
1,2,3-Trichloropropane	ug/L	50	50.3	101	72-125	
1,2-Dibromo-3-chloropropane	ug/L	50	54.7	109	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	51.8	104	81-125	
1,2-Dichlorobenzene	ug/L	50	46.1	92	82-126	
1,2-Dichloroethane	ug/L	50	49.5	99	72-126	
1,2-Dichloropropane	ug/L	50	51.4	103	80-127	
1,3-Dichloropropane	ug/L	50	49.5	99	79-124	
1,4-Dichlorobenzene	ug/L	50	49.9	100	79-125	
2-Butanone (MEK)	ug/L	100	118	118	50-134	
2-Hexanone	ug/L	100	112	112	58-138	
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	70-131	
Acetone	ug/L	100	109	109	50-146	
Acrylonitrile	ug/L	250	277	111	66-124	
Benzene	ug/L	50	49.5	99	78-128	
Bromochloromethane	ug/L	50	49.8	100	73-124	
Bromodichloromethane	ug/L	50	51.2	102	81-125	
Bromoform	ug/L	50	50.6	101	71-125	
Bromomethane	ug/L	50	53.9	108	50-150	
Carbon disulfide	ug/L	50	47.9	96	54-150	
Carbon tetrachloride	ug/L	50	55.0	110	81-137	
Chlorobenzene	ug/L	50	45.8	92	82-126	
Chloroethane	ug/L	50	50.5	101	69-140	
Chloroform	ug/L	50	51.8	104	77-129	
Chloromethane	ug/L	50	45.4	91	54-139	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

LABORATORY CONTROL SAMPLE: 190508

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	54.1	108	76-133	
cis-1,3-Dichloropropene	ug/L	50	51.7	103	76-127	
Dibromochloromethane	ug/L	50	49.7	99	77-125	
Dibromomethane	ug/L	50	49.6	99	77-125	
Ethylbenzene	ug/L	50	47.3	95	80-127	
Iodomethane	ug/L	100	110	110	65-172	
m&p-Xylene	ug/L	100	95.6	96	82-127	
Methylene Chloride	ug/L	50	49.1	98	67-133	
o-Xylene	ug/L	50	47.5	95	83-124	
Styrene	ug/L	50	50.7	101	80-130	
Tetrachloroethene	ug/L	50	50.3	101	78-128	
Toluene	ug/L	50	48.7	97	76-126	
trans-1,2-Dichloroethene	ug/L	50	47.2	94	78-134	
trans-1,3-Dichloropropene	ug/L	50	54.5	109	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	60.9	122	51-140	
Trichloroethene	ug/L	50	50.6	101	79-127	
Trichlorofluoromethane	ug/L	50	56.9	114	76-148	
Vinyl acetate	ug/L	100	111	111	50-150	
Vinyl chloride	ug/L	50	60.0	120	67-143	
Xylene (Total)	ug/L	150	143	95	83-125	
1,2-Dichloroethane-d4 (S)	%			106	79-120	
4-Bromofluorobenzene (S)	%			105	87-109	
Dibromofluoromethane (S)	%			107	85-115	
Toluene-d8 (S)	%			101	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 190509 190510

Parameter	Units	9230428019 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	59.0	58.3	118	117	60-150	1	
Benzene	ug/L	ND	50	50	55.8	60.2	112	120	74-136	8	
Chlorobenzene	ug/L	ND	50	50	45.9	49.3	92	99	79-135	7	
Toluene	ug/L	ND	50	50	57.0	56.9	114	114	73-131	.2	
Trichloroethene	ug/L	ND	50	50	51.5	57.7	103	115	73-131	11	
1,2-Dichloroethane-d4 (S)	%						106	102	79-120		
4-Bromofluorobenzene (S)	%						106	102	87-109		
Dibromofluoromethane (S)	%						99	100	85-115		
Toluene-d8 (S)	%						107	100	70-120		

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: MSV/5083 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9230428020, 9230428021, 9230428022, 9230428023, 9230428024, 9230428025, 9230428026, 9230428027

METHOD BLANK: 190511 Matrix: Water
Associated Lab Samples: 9230428020, 9230428021, 9230428022, 9230428023, 9230428024, 9230428025, 9230428026, 9230428027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/03/08 01:26	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/03/08 01:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/03/08 01:26	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/03/08 01:26	
1,1-Dichloroethane	ug/L	ND	1.0	11/03/08 01:26	
1,1-Dichloroethene	ug/L	ND	1.0	11/03/08 01:26	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/03/08 01:26	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	11/03/08 01:26	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/03/08 01:26	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/03/08 01:26	
1,2-Dichloroethane	ug/L	ND	1.0	11/03/08 01:26	
1,2-Dichloropropane	ug/L	ND	1.0	11/03/08 01:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/03/08 01:26	
2-Butanone (MEK)	ug/L	ND	5.0	11/03/08 01:26	
2-Hexanone	ug/L	ND	5.0	11/03/08 01:26	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/03/08 01:26	
Acetone	ug/L	ND	25.0	11/03/08 01:26	
Acrylonitrile	ug/L	ND	10.0	11/03/08 01:26	
Benzene	ug/L	ND	1.0	11/03/08 01:26	
Bromochloromethane	ug/L	ND	1.0	11/03/08 01:26	
Bromodichloromethane	ug/L	ND	1.0	11/03/08 01:26	
Bromoform	ug/L	ND	1.0	11/03/08 01:26	
Bromomethane	ug/L	ND	5.0	11/03/08 01:26	
Carbon disulfide	ug/L	ND	2.0	11/03/08 01:26	
Carbon tetrachloride	ug/L	ND	1.0	11/03/08 01:26	
Chlorobenzene	ug/L	ND	1.0	11/03/08 01:26	
Chloroethane	ug/L	ND	1.0	11/03/08 01:26	
Chloroform	ug/L	3.2	1.0	11/03/08 01:26	B-
Chloromethane	ug/L	ND	1.0	11/03/08 01:26	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/03/08 01:26	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/03/08 01:26	
Dibromochloromethane	ug/L	ND	1.0	11/03/08 01:26	
Dibromomethane	ug/L	ND	1.0	11/03/08 01:26	
Ethylbenzene	ug/L	ND	1.0	11/03/08 01:26	
Iodomethane	ug/L	ND	5.0	11/03/08 01:26	
m&p-Xylene	ug/L	ND	2.0	11/03/08 01:26	
Methylene Chloride	ug/L	ND	2.0	11/03/08 01:26	
o-Xylene	ug/L	ND	1.0	11/03/08 01:26	
Styrene	ug/L	ND	1.0	11/03/08 01:26	
Tetrachloroethene	ug/L	ND	1.0	11/03/08 01:26	
Toluene	ug/L	ND	1.0	11/03/08 01:26	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/03/08 01:26	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/03/08 01:26	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

METHOD BLANK: 190511 Matrix: Water

Associated Lab Samples: 9230428020, 9230428021, 9230428022, 9230428023, 9230428024, 9230428025, 9230428026, 9230428027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	11/03/08 01:26	
Trichloroethene	ug/L	ND	1.0	11/03/08 01:26	
Trichlorofluoromethane	ug/L	ND	1.0	11/03/08 01:26	
Vinyl acetate	ug/L	ND	2.0	11/03/08 01:26	
Vinyl chloride	ug/L	ND	1.0	11/03/08 01:26	
Xylene (Total)	ug/L	ND	2.0	11/03/08 01:26	
1,2-Dichloroethane-d4 (S)	%	102	79-120	11/03/08 01:26	
4-Bromofluorobenzene (S)	%	107	87-109	11/03/08 01:26	
Dibromofluoromethane (S)	%	96	85-115	11/03/08 01:26	
Toluene-d8 (S)	%	98	70-120	11/03/08 01:26	

LABORATORY CONTROL SAMPLE: 190512

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	57.2	114	83-125	
1,1,1-Trichloroethane	ug/L	50	57.6	115	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	51.1	102	73-127	
1,1,2-Trichloroethane	ug/L	50	56.9	114	77-123	
1,1-Dichloroethane	ug/L	50	54.5	109	76-129	
1,1-Dichloroethene	ug/L	50	55.3	111	78-146	
1,2,3-Trichloropropane	ug/L	50	59.2	118	72-125	
1,2-Dibromo-3-chloropropane	ug/L	50	59.3	119	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	58.8	118	81-125	
1,2-Dichlorobenzene	ug/L	50	53.8	108	82-126	
1,2-Dichloroethane	ug/L	50	55.9	112	72-126	
1,2-Dichloropropane	ug/L	50	53.5	107	80-127	
1,4-Dichlorobenzene	ug/L	50	57.3	115	79-125	
2-Butanone (MEK)	ug/L	100	108	108	50-134	
2-Hexanone	ug/L	100	125	125	58-138	
4-Methyl-2-pentanone (MIBK)	ug/L	100	125	125	70-131	
Acetone	ug/L	100	126	126	50-146	
Acrylonitrile	ug/L	250	271	108	66-124	
Benzene	ug/L	50	52.6	105	78-128	
Bromochloromethane	ug/L	50	53.9	108	73-124	
Bromodichloromethane	ug/L	50	57.6	115	81-125	
Bromoform	ug/L	50	60.7	121	71-125	
Bromomethane	ug/L	50	51.3	103	50-150	
Carbon disulfide	ug/L	50	49.8	100	54-150	
Carbon tetrachloride	ug/L	50	56.5	113	81-137	
Chlorobenzene	ug/L	50	53.9	108	82-126	
Chloroethane	ug/L	50	53.2	106	69-140	
Chloroform	ug/L	50	55.5	111	77-129	
Chloromethane	ug/L	50	42.6	85	54-139	
cis-1,2-Dichloroethene	ug/L	50	55.9	112	76-133	
cis-1,3-Dichloropropene	ug/L	50	54.9	110	76-127	

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

LABORATORY CONTROL SAMPLE: 190512

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	50	57.0	114	77-125	
Dibromomethane	ug/L	50	59.4	119	77-125	
Ethylbenzene	ug/L	50	55.4	111	80-127	
Iodomethane	ug/L	100	115	115	65-172	
m&p-Xylene	ug/L	100	111	111	82-127	
Methylene Chloride	ug/L	50	53.3	107	67-133	
o-Xylene	ug/L	50	55.3	111	83-124	
Styrene	ug/L	50	59.2	118	80-130	
Tetrachloroethene	ug/L	50	59.4	119	78-128	
Toluene	ug/L	50	53.3	107	76-126	
trans-1,2-Dichloroethene	ug/L	50	52.4	105	78-134	
trans-1,3-Dichloropropene	ug/L	50	56.9	114	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	57.7	115	51-140	
Trichloroethene	ug/L	50	58.8	118	79-127	
Trichlorofluoromethane	ug/L	50	57.2	114	76-148	
Vinyl acetate	ug/L	100	96.9	97	50-150	
Vinyl chloride	ug/L	50	51.8	104	67-143	
Xylene (Total)	ug/L	150	166	111	83-125	
1,2-Dichloroethane-d4 (S)	%			104	79-120	
4-Bromofluorobenzene (S)	%			106	87-109	
Dibromofluoromethane (S)	%			98	85-115	
Toluene-d8 (S)	%			98	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 190513 190514

Parameter	Units	9230565004 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	47.9	47.3	96	95	60-150	1	
Benzene	ug/L	ND	50	50	45.1	45.1	90	90	74-136	.1	
Chlorobenzene	ug/L	ND	50	50	47.6	47.7	94	94	79-135	.3	
Toluene	ug/L	ND	50	50	47.3	48.0	95	96	73-131	1	
Trichloroethene	ug/L	ND	50	50	50.3	50.2	101	100	73-131	.1	
1,2-Dichloroethane-d4 (S)	%						110	105	79-120		
4-Bromofluorobenzene (S)	%						111	107	87-109		S0
Dibromofluoromethane (S)	%						95	93	85-115		
Toluene-d8 (S)	%						98	97	70-120		

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QUALITY CONTROL DATA

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

QC Batch: WETA/3797 — Analysis Method: SM 5220D
QC Batch Method: SM 5220D — Analysis Description: 5220D COD
Associated Lab Samples: 9230428001

METHOD BLANK: 191618 — Matrix: Water
Associated Lab Samples: 9230428001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	10/31/08 22:45	

LABORATORY CONTROL SAMPLE: 191619

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	750	754	101	90-110	

MATRIX SPIKE SAMPLE: 191620

Parameter	Units	9230476002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	750	765	102	75-125	

MATRIX SPIKE SAMPLE: 191621

Parameter	Units	9230476003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	750	756	101	75-125	

SAMPLE DUPLICATE: 191622

Parameter	Units	9230476004 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		

SAMPLE DUPLICATE: 191623

Parameter	Units	9230455003 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	678	676	.3	

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QUALIFIERS

Project: White Oak LF-Oct. 08
Pace Project No.: 9230428

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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ANALYTE QUALIFIERS

B-	Analyte detected in method blank but was not detected in the associated samples.
M0	Matrix spike recovery was outside laboratory control limits.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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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	265	259	6	97.7%	Poisson Prediction Limits
Total Arsenic	266	229	37	86.1%	Kruskal-Wallis
Total Barium	270	24	246	8.9%	ANOVA
Total Beryllium	266	211	55	79.3%	Kruskal-Wallis
Total Cadmium	268	213	55	79.5%	Kruskal-Wallis
Total Chromium	266	130	136	48.9%	Kruskal-Wallis
Total Cobalt	268	156	112	58.2%	Kruskal-Wallis
Total Copper	266	149	117	56.0%	Kruskal-Wallis
Total Lead	269	177	92	65.8%	Kruskal-Wallis
Total Nickel	267	136	131	50.9%	Kruskal-Wallis
Total Selenium	266	262	4	98.5%	Poisson Prediction Limits
Total Silver	266	263	3	98.9%	Poisson Prediction Limits
Total Thallium	266	243	23	91.4%	Poisson Prediction Limits
Total Vanadium	268	125	143	46.6%	Kruskal-Wallis
Total Zinc	268	59	209	22.0%	Kruskal-Wallis
Acetone	185	184	1	99.5%	Poisson Prediction Limits
Carbon Disulfide	185	176	9	95.1%	Poisson Prediction Limits
2-Butanone	185	184	1	99.5%	Poisson Prediction Limits

Sampling Event	# Detected
N 1	71
N 2	13
N 3	14
N 4	3
N 5	72
N 6	23
N 7	15
N 8	17
N 9	12
N 10	92
N 11	128
N 12	64
N 13	89
N 14	104
N 15	81
N 16	91
N 17	93
N 18	43
N 19	56
N 20	58
N 21	84
N 22	72
N 23	85

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) =	1380
Total Detected Concentrations (per event) =	1380
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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	10
06/26/00	ND	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	10
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	30
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	10
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	10
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	10
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	10
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	30
04/15/02	**15**	ND	NS	ND	ND	ND	NT	ND	ND	ND	ND	**11**	ND	ND	ND	ND	NS	10
09/26/02	ND	ND	ND	**12**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**98**	10
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	ND	10
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	5
10/21/04	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	**12**	5
10/13/05	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	30
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	5
04/25/07	ND	ND	ND	ND	ND	**20**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6
10/31/07	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	5
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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	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	5	5	-	-	-	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	15	5	-	5	5	5	-	5	5	5	5	11	5	5	5	5	-
09/26/02	5	5	5	12	5	5	5	5	5	5	5	5	5	5	5	5	98
04/28/03	5	5	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	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	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	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	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	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	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	2.5	2.5	2.5
04/25/07	3	3	3	3	3	20	3	3	3	3	3	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	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	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	2.5	2.5

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 17.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 44$
$T_{n1} = 196.5$

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).

$k = 14$
$n = 44$
$T_{n1} = 196.5$
$t[43,.01] = 2.4181$
$c = 0.3182$
$T_{n2} = 35$
$T^*_k = 85.4$

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	10
06/26/00	ND	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	10
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	10
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	10
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**11**	ND	ND	NS	10
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**17**	ND	ND	NS	10
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	10
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	ND	NS	10
04/15/02	ND	ND	NS	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	10
09/26/02	ND	**5.7**	ND	ND	ND	ND	ND	ND	**27**	ND	ND	ND	ND	**30**	**6.5**	ND	**68**	5
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	**24**	5
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	**6.2**	ND	**5.3**	ND	**6.3**	ND	ND	**81**	5
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7.4**	ND	**9.2**	ND	ND	**30**	5
10/21/04	ND	ND	ND	ND	ND	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	ND	ND	**5.2**	ND	**21**	ND	ND	**65**	5
10/13/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**53**	**9.9**	ND	**44**	5
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	ND	ND	**42**	10
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	**11**	**25**	ND	**13**	5
04/25/07	ND	ND	ND	ND	ND	**280**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	5
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**42.8**	**11.4**	ND	**21.4**	5
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.2**	ND	ND	**10.2**	5
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**16.2**	ND	ND	**6.6**	5
N_i	18	17	12	16	16	16	15	16	16	15	15	16	16	16	16	17	13	
sum of rank values (R_i)	2070.0	2073.0	1380.0	1966.0	1840.0	1991.0	1725.0	1840.0	1980.0	1844.0	1725.0	2195.5	1840.0	3424.5	2355.0	1955.0	3307.0	
avg rank value (Rbar)	115.0	121.9	115.0	122.9	115.0	124.4	115.0	115.0	123.8	122.9	115.0	137.2	115.0	214.0	147.2	115.0	254.4	

	Number of each rank value																	Rank Value
rank value of NDs =	18	16	12	15	16	15	15	16	15	14	15	13	16	4	12	17	0	115
rank value of 5.2s =	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	230.5
rank value of 5.3s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	232
rank value of 5.7s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	233
rank value of 6.2s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	234
rank value of 6.3s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	235
rank value of 6.5s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	236
rank value of 6.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	237
rank value of 7.4s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	238
rank value of 9.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	239
rank value of 9.9s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	240
rank value of 10s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	241
rank value of 10.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	242
rank value of 11s =	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	243.5
rank value of 11.4s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	245
rank value of 12s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	246.5
rank value of 13s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	248
rank value of 16.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	249
rank value of 17s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	250
rank value of 21s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	251
rank value of 21.4s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	252
rank value of 24s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	253
rank value of 25s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	254
rank value of 27s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	255
rank value of 30s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	256.5
rank value of 42s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	258
rank value of 42.8s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	259
rank value of 44s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	260
rank value of 53s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	261
rank value of 59s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	262
rank value of 65s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	263
rank value of 68s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	264
rank value of 81s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	265
rank value of 280s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	266

n =	18	17	12	16	16	16	15	16	16	15	15	16	16	16	16	17	13

Sum of rank value calculations

2070	1840	1380	1725	1840	1725	1725	1840	1725	1610	1725	1495	1840	460	1380	1955	0
0	0	0	0	0	0	0	0	0	0	0	230.5	0	230.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	232	0	0	0	0	0
0	233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	234	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	235	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	236	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237
0	0	0	0	0	0	0	0	0	0	0	238	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	239	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	240	0	0
0	0	0	241	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242
0	0	0	0	0	0	0	0	0	0	0	0	0	487	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	245	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	246.5	0	0	246.5
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	248
0	0	0	0	0	0	0	0	0	0	0	0	0	249	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	250	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	251	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	252
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	253
0	0	0	0	0	0	0	0	0	0	0	0	0	0	254	0	0
0	0	0	0	0	0	0	0	255	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	256.5	0	0	256.5
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	258
0	0	0	0	0	0	0	0	0	0	0	0	0	259	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260
0	0	0	0	0	0	0	0	0	0	0	0	0	261	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	262
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	263
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	264
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	265
0	0	0	0	0	266	0	0	0	0	0	0	0	0	0	0	0

sum of rank values (R_i)	2070	2073	1380	1966	1840	1991	1725	1840	1980	1844	1725	2195.5	1840	3424.5	2355	1955	3307

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
Ri^2/N_i =	649011.3	241572	211600	247755	198375	211600	245025	226689	198375	301264	211600	732950	346627	224825	841250

$N_{i\,bg}$ = 47
N = 266
H = 58.76

Adjust H for ties:

T_i = 1E+07 sum of T1..T3

$H' = H/(1-(T_i/(N^3-N)))$
H' = 162.36
Chi-square = 23.68

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 23.68 which is less than H' =162.36.
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-5A	MW-5D	MW-8	MW-9	**MW-12**	MW-13S	MW-13D	**MW-15**
Rbar (well x) =	122.9	115.0	124.4	115.0	115.0	123.8	122.9	115.0	137.2	115.0	214.0	147.2	115.0	254.4
avg Rbar (background) =	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5
Dx =	5.4	-2.5	6.9	-2.5	-2.5	6.2	5.4	-2.5	19.7	-2.5	96.5	29.7	-2.5	136.9
Cx =	51.9	51.9	51.9	53.2	51.9	51.9	53.2	53.2	51.9	51.9	51.9	51.9	50.7	56.2
Statistical Significance ?	No	No	No	No	No	No	No	No	No	No	**Yes**	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	-	-	No	-	-	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-12	MDL
9/18/2001	**11**	**10**
10/29/2001	**17**	**10**
1/30/2002	ND	**10**
4/15/2002	ND	**10**
9/26/2002	**30**	**5**
10/30/2003	**6.3**	**5**
4/20/2004	**9.2**	**5**
10/21/2004	ND	**5**
4/18/2005	**21**	**5**
10/13/2005	**53**	**5**
4/25/2006	**12**	**10**
10/20/2006	**11**	**5**
4/25/2007	ND	**5**
10/31/2007	**42.8**	**5**
4/23/2008	**5.2**	**5**
10/20/2008	**16.2**	**5**

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

	X_i values =
11	-97.73329
17	2.7074138
5	-1193.124
5	-1193.124
30	2982.0977
6.3	-805.9798
9.2	-262.9128
2.5	-2251.31
21	156.91788
53	52287.402
12	-46.89942
11	-97.73329
2.5	-2251.31
42.8	20109.779
5.2	-1126.893
16.2	0.2093201

X_{bar} =	15.60625
SD =	14.688475
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	4138.2558
γ_1=	1.4385677

Since the Coefficient of Skewness of 1.44 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 =	X_i values =
2.3978953	3.738E-05
2.8332133	0.1029998
1.6094379	-0.430405
1.6094379	-0.430405
3.4011974	1.1143145
1.8405496	-0.143803
2.2192035	-0.003065
0.9162907	-3.037085
3.0445224	0.3145203
3.9702919	4.1409619
2.4849066	0.0017474
2.3978953	3.738E-05
0.9162907	-3.037085
3.7565381	2.6976894
1.6486586	-0.366754
2.7850112	0.0743807

X_{bar} = 2.3644588
SD = 0.9168672
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = 0.0623805
γ_1 = 0.0891606

Since the Coefficient of Skewness of 0.09 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-12	MDL	Data for Testing
9/18/2001	**11**	10	2.3978953
10/29/2001	**17**	10	2.8332133
1/30/2002	ND	10	1.6094379
4/15/2002	ND	10	1.6094379
9/26/2002	**30**	5	3.4011974
10/30/2003	**6.3**	5	1.8405496
4/20/2004	**9.2**	5	2.2192035
10/21/2004	ND	5	0.9162907
4/18/2005	**21**	5	3.0445224
10/13/2005	**53**	5	3.9702919
4/25/2006	**12**	10	2.4849066
10/20/2006	**11**	5	2.3978953
4/25/2007	ND	5	0.9162907
10/31/2007	**42.8**	5	3.7565381
4/23/2008	**5.2**	5	1.6486586
10/20/2008	**16.2**	5	2.7850112

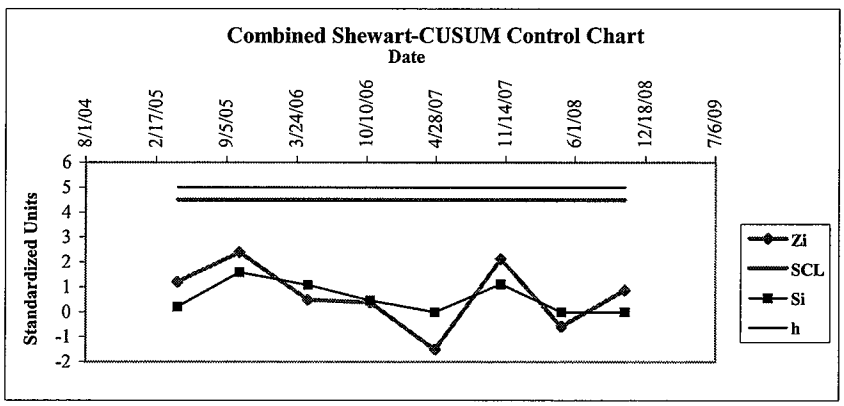
Compute the mean and standard deviation of the historical data:

2.1034032 = x_{mean} (Mean of N1-N8 historical data)
0.7822458 = 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	3.0445224	1.20309913	0.2030991	5	4.5
10/13/2005	3.9702919	2.3865756	1.5896747	5	4.5
4/25/2006	2.4849066	0.48770277	1.0773775	5	4.5
10/20/2006	2.3978953	0.37646999	0.4538475	5	4.5
4/25/2007	0.9162907	-1.5175697	0	5	4.5
10/31/2007	3.7565381	2.11331901	1.113319	5	4.5
4/23/2008	1.6486586	-0.5813321	0	5	4.5
10/20/2008	2.7850112	0.87134766	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 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**

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

	X_i values =
68	30868.221
24	-2015.067
81	87346.538
30	-291.5357
59	11193.171
65	22831.933
44	400.19022
42	154.78762
13	-13195.73
12	-14942.87
21.4	-3533.178
10.2	-18464.15
6.6	-27083.16

X_{bar} = 36.630769
SD = 25.069882
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 5636.088
γ_1 = 0.4033333

Since the Coefficient of Skewness of 0.40 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 =	X_i values =
4.2195077	0.7038553
3.1780538	-0.003506
4.3944492	1.2061556
3.4011974	0.0003613
4.0775374	0.4177722
4.1743873	0.6020895
3.7841896	0.0937084
3.7376696	0.0677641
2.5649494	-0.447745
2.4849066	-0.603501
3.0633909	-0.018946
2.3223877	-1.02294
1.8870696	-3.004104

X_{bar} = 3.3299766

SD = 0.8197873
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.154541
γ_1 = 0.316289

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

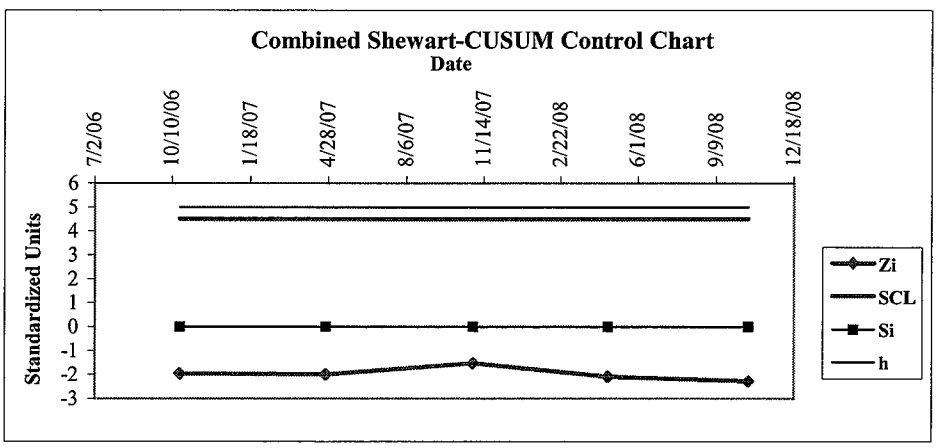
Compute the mean and standard deviation of the historical data:

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

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.

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	250	NS	NS	240	420	200	63	300	93	81	170	230	ND	NS	NS	NS	NS	5
06/26/00	300	67	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	330	92	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	500
04/09/01	1300	380	NS	180	330	120	80	290	360	80	140	970	130	NS	NS	NS	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1800	4700	90	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3000	450	27	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	980	360	41	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3	NS	1300	NS	500
04/15/02	1300	41	NS	ND	ND	160	23	190	460	180	250	1400	110	540	820	38	NS	5
09/26/02	330	500	750	4200	120	230	93	410	910	130	320	1400	140	8600	1600	46	11000	5
04/28/03	600	66	220	1800	160	140	110	92	360	95	140	800	140	NT	NT	NT	2800	5
10/30/03	320	100	NT	210	310	130	95	110	1200	580	190	270	130	920	320	29	4900	5
04/20/04	320	56	120	410	460	170	140	210	62	85	170	940	150	1600	860	36	2000	5
10/21/04	320	40	200	300	310	140	140	130	12	100	320	900	110	2700	1700	29	4900	5
04/18/05	480	55	160	7200	610	180	160	140	12	78	150	1000	140	2000	1000	31	3700	5
10/13/05	770	37	160	1700	870	250	160	140	27	110	290	810	150	5500	4400	27	2700	5
04/25/06	650	ND	ND	ND	1100	ND	ND	ND	ND	820	ND	750	ND	ND	1700	ND	2700	500
10/20/06	410	22	180	470	1100	ND	ND	ND	160	NS	NS	ND	ND	1800	1400	ND	650	5
04/25/07	290	ND	200	240	1300	1500	130	180	ND	240	250	ND	160	160	120	ND	600	100
10/31/07	501	31.5	223	198	1350	591	184	208	62.4	86.7	149	516	201	2000	1400	30.1	872	5
04/23/08	194	30.8	253	168	1230	661	216	202	61.8	257	256	151	185	171	169	24.1	361	5
10/20/08	474	66	313	224	1210	894	164	216	41.1	83.8	205	182	244	747	852	26.4	245	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	4.39445	5.1358	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	4.38203	4.94164	6.8773	4.86753				
														7.49554	8.45532	4.49981	
														8.00637	6.10925	3.29584	
														6.88755	5.8861	3.71357	
														1.09861		7.17012	
	7.17012	3.71357		0.91629	0.91629	5.07517	3.13549	5.24702	6.13123	5.19296	5.52146	7.24423	4.70048	6.29157	6.7093	3.63759	
	5.79909	6.21461	6.62007	8.34284	4.78749	5.43808	4.5326	6.01616	6.81344	4.86753	5.76832	7.24423	4.94164	9.05952	7.37776	3.82864	9.30565
	6.39693	4.18965	5.39363	7.49554	5.07517	4.94164	4.70048	4.52179	5.8861	4.55388	4.94164	6.68461	4.94164				7.93737
	5.76832	4.60517		5.34711	5.73657	4.86753	4.55388	4.70048	7.09008	6.36303	5.24702	5.59842	4.86753	6.82437	5.76832	3.3673	8.49699
	5.76832	4.02535	4.78749	6.01616	6.13123	5.1358	4.94164	5.34711	4.12713	4.44265	5.1358	6.84588	5.01064	7.37776	6.75693	3.58352	7.6009
	5.76832	3.68888	5.29832	5.70378	5.73657	4.94164	4.94164	4.86753	2.48491	4.60517	5.76832	6.80239	4.70048	7.90101	7.43838	3.3673	8.49699
	6.17379	4.00733	5.07517	8.88184	6.41346	5.19296	5.07517	4.94164	2.48491	4.35671	5.01064	6.90776	4.94164	7.6009	6.90776	3.43399	8.21609
	6.64639	3.61092	5.07517	7.43838	6.76849	5.52146	5.07517	4.94164	3.29584	4.70048	5.66988	6.69703	5.01064	8.6125	8.38936	3.29584	7.90101
	6.47697	5.52146	5.52146	5.52146	7.00307	5.52146	5.52146	5.52146	5.52146	6.7093	5.52146	6.62007	5.52146	5.52146	7.43838	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	7.49554	7.24423	0.91629	6.47697
	5.66988	3.91202	5.29832	5.48064	7.17012	7.31322	4.86753	5.19296	3.91202	5.48064	5.52146	3.91202	5.07517	5.07517	4.78749	3.91202	6.39693
	6.21661	3.44999	5.40717	5.28827	7.20786	6.38182	5.21494	5.33754	4.13357	4.46245	5.00395	6.24611	5.3033	7.6009	7.24423	3.40453	6.77079
	5.26786	3.42751	5.53339	5.12396	7.11477	6.49375	5.37528	5.30827	4.1239	5.54908	5.54518	5.01728	5.22036	5.14166	5.1299	3.18221	5.88888
	6.16121	4.18965	5.7462	5.41165	7.09838	6.79571	5.09987	5.37528	3.71601	4.42843	5.32301	5.20401	5.49717	6.61607	6.74759	3.27336	5.50126

n_i =	18	17	12	17	17	16	16	16	16	15	15	16	16	17	16	17	13		
Xi. =	109.494	71.1932	64.9494	99.5933	100.524	84.6223	72.4766	79.6088	75.2145	74.4888	80.0556	94.2557	72.4323	114.607	108.39	63.4034	96.8908		1462.2 = X..
Xi.bar =	6.08302	4.18784	5.41245	5.85843	5.91316	5.2889	4.52979	4.97555	4.7009	4.96592	5.33704	5.89098	4.52702	6.74156	6.77439	3.72961	7.45314		5.42 = X..bar
std dev =	0.52715	0.902	0.45616	1.71793	1.55072	1.39076	1.11784	1.14969	1.41985	0.75037	0.29852	1.62355	1.42978	1.83287	1.03408	1.24922	1.14169		
$ni*(Xi.bar-X..bar)^2$ =	8.01927	25.6239	0.00012	3.33439	4.20935	0.25667	12.5533	3.09763	8.17159	3.03257	0.09247	3.6165	12.632	29.8909	29.5431	48.3209	53.9729		
$(Xi.^2/n_i)$ =	666.057	298.146	351.535	583.461	594.412	447.559	328.304	396.098	353.576	369.905	427.26	555.259	327.902	772.627	734.279	236.47	722.141		

	SS	df	MS F	Fc
SSw	246.368	16	15.398 #	1.67
SS_error	393.284	253	1.55448	
SSt	639.652	269		

The calculated F statistic is 9.91. The tabulated Fc value with 16 and 253 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-5A	MW-5D	MW-8	MW-9	**MW-12**	**MW-13S**	MW-13D	**MW-15**
$Xbar_i$ = avg per well =	5.85843	5.91316	5.2889	4.52979	4.97555	4.7009	4.96592	5.33704	5.89098	4.52702	6.74156	6.77439	3.72961	7.45314
$D_w = Xbar_i - Xbar_{up}$ =	0.63211	0.68684	0.06258	-0.6965	-0.2508	-0.5254	-0.2604	0.11072	0.66466	-0.6993	1.51524	1.54807	-1.4967	2.22682
= [MS-error*($1/n_{up} + 1/n_i$)]^0.5 =	0.43995	0.43995	0.44993	0.44993	0.44993	0.44993	0.46099	0.46099	0.44993	0.44993	0.43995	0.44993	0.43995	0.48713
$D_i = SE_i * t_c$ =	1.02508	1.02508	1.04834	1.04834	1.04834	1.04834	1.0741	1.0741	1.04834	1.04834	1.02508	1.04834	1.02508	1.135
Statistical Significance ?	No	No	No	No	No	No	No	No	No	No	**Yes**	**Yes**	No	**Yes**
f SSI, is current event above MCL?	-	-	-	-	-	-	-	-	-	-	No	No	-	No

47 = n_{up}
5.2263193 = $Xbar_{up}$(average background: MW-11S, MW-11D, & MW-14)
1.5544818 = MS_error
253 = degrees of freedom
14 = 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 3 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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
4/24/2000	250	NS	NS	240	420	200	63	300	93	81	170	230	ND	NS	NS	NS	NS	5
6/26/2000	300	67	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	5
9/18/2000	NS	NS	NS	330	92	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	500
4/9/2001	1300	380	NS	180	330	120	80	290	360	80	140	970	130	NS	NS	NS	NS	5
9/18/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1800	4700	90	NS	5
10/29/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3000	450	27	NS	5
1/30/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	980	360	41	NS	5
2/28/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3	NS	1300	NS	500
4/15/2002	1300	41	NS	ND	ND	160	23	190	460	180	250	1400	110	540	820	38	NS	5
9/26/2002	330	500	750	4200	120	230	93	410	910	130	320	1400	140	8600	1600	46	11000	5
4/28/2003	600	66	220	1800	160	140	110	92	360	95	140	800	140	NT	NT	NT	2800	5
10/30/2003	320	100	NT	210	310	130	95	110	1200	580	190	270	130	920	320	29	4900	5
4/20/2004	320	56	120	410	460	170	140	210	62	85	170	940	150	1600	860	36	2000	5
10/21/2004	320	40	200	300	310	140	140	130	12	100	320	900	110	2700	1700	29	4900	5
4/18/2005	480	55	160	7200	610	180	160	140	12	78	150	1000	140	2000	1000	31	3700	5
10/13/2005	770	37	160	1700	870	250	160	140	27	110	290	810	150	5500	4400	27	2700	5
4/25/2006	650	ND	ND	ND	1100	ND	ND	ND	ND	820	ND	750	ND	ND	1700	ND	2700	500
10/20/2006	410	22	180	470	1100	ND	ND	ND	160	NS	NS	ND	ND	1800	1400	ND	650	5
4/25/2007	290	ND	200	240	1300	1500	130	180	ND	240	250	ND	160	160	120	ND	600	100
10/31/2007	501	31.5	223	198	1350	591	184	208	62.4	86.7	149	516	201	2000	1400	30.1	872	5
4/23/2008	194	30.8	253	168	1230	661	216	202	61.8	257	256	151	185	171	169	24.1	361	5
10/20/2008	474	66	313	224	1210	894	164	216	41.1	83.8	205	182	244	747	852	26.4	245	5

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

	250			240	420	200	63	300	93	81	170	230	2.5				
	300	67															
	330	30															
				330	92												
	1300	380		180	330	120	80	290	360	80	140	970	130				
														1800	4700	90	
														3000	450	27	
														980	360	41	
														3		1300	
	1300	41		2.5	2.5	160	23	190	460	180	250	1400	110	540	820	38	
	330	500	750	4200	120	230	93	410	910	130	320	1400	140	8600	1600	46	11000
	600	66	220	1800	160	140	110	92	360	95	140	800	140				2800
	320	100		210	310	130	95	110	1200	580	190	270	130	920	320	29	4900
	320	56	120	410	460	170	140	210	62	85	170	940	150	1600	860	36	2000
	320	40	200	300	310	140	140	130	12	100	320	900	110	2700	1700	29	4900
	480	55	160	7200	610	180	160	140	12	78	150	1000	140	2000	1000	31	3700
	770	37	160	1700	870	250	160	140	27	110	290	810	150	5500	4400	27	2700
	650	250	250	250	1100	250	250	250	250	820	250	750	250	250	1700	250	2700
	410	22	180	470	1100	2.5	2.5	2.5	160			2.5	2.5	1800	1400	2.5	650
	290	50	200	240	1300	1500	130	180	50	240	250	50	160	160	120	50	600
	501	31.5	223	198	1350	591	184	208	62.4	86.7	149	516	201	2000	1400	30.1	872
	194	30.8	253	168	1230	661	216	202	61.8	257	256	151	185	171	169	24.1	361
	474	66	313	224	1210	894	164	216	41.1	83.8	205	182	244	747	852	26.4	245
n =	18	17	12	17	17	16	16	16	16	15	15	16	16	17	16	17	13
bar x_i =	507.72	107.19	252.42	1066	645.56	351.16	125.66	191.91	257.58	200.43	216.67	648.22	140.31	1927.7	1365.7	122.18	2879.1
z_{ij} =	257.72			826.03	225.56	151.16	62.656	108.09	164.58	119.43	46.667	418.22	137.81				
	207.72	40.194															
	177.72	77.194															
				736.03	553.56												
	792.28	272.81		886.03	315.56	231.16	45.656	98.094	102.42	120.43	76.667	321.78	10.313				
														127.71	3334.3	32.182	
														1072.3	915.69	95.182	
														947.71	1005.7	81.182	
														1924.7		1177.8	
	792.28	66.194		1063.5	643.06	191.16	102.66	1.9063	202.42	20.433	33.333	751.78	30.313	1387.7	545.69	84.182	
	177.72	392.81	497.58	3134	525.56	121.16	32.656	218.09	652.42	70.433	103.33	751.78	0.3125	6672.3	234.31	76.182	8120.9
	92.278	41.194	32.417	733.97	485.56	211.16	15.656	99.906	102.42	105.43	76.667	151.78	0.3125				79.077
	187.72	7.1941		856.03	335.56	221.16	30.656	81.906	942.42	379.57	26.667	378.22	10.313	1007.7	1045.7	93.182	2020.9
	187.72	51.194	132.42	656.03	185.56	181.16	14.344	18.094	195.58	115.43	46.667	291.78	9.6875	327.71	505.69	86.182	879.08
	187.72	67.194	52.417	766.03	335.56	211.16	14.344	61.906	245.58	100.43	103.33	251.78	30.313	772.29	334.31	93.182	2020.9
	27.722	52.194	92.417	6134	35.559	171.16	34.344	51.906	245.58	122.43	66.667	351.78	0.3125	72.294	365.69	91.182	820.92
	262.28	70.194	92.417	633.97	224.44	101.16	34.344	51.906	230.58	90.433	73.333	161.78	9.6875	3572.3	3034.3	95.182	179.08
	142.28	142.81	2.4167	816.03	454.44	101.16	124.34	58.094	7.5813	619.57	33.333	101.78	109.69	1677.7	334.31	127.82	179.08
	97.722	85.194	72.417	596.03	454.44	348.66	123.16	189.41	97.581			645.72	137.81	127.71	34.313	119.68	2229.1
	217.72	57.194	52.417	826.03	654.44	1148.8	4.3438	11.906	207.58	39.567	33.333	598.22	19.688	1767.7	1245.7	72.182	2279.1
	6.7222	75.694	29.417	868.03	704.44	239.84	58.344	16.094	195.18	113.73	67.667	132.22	60.688	72.294	34.313	92.082	2007.1
	313.72	76.394	0.5833	898.03	584.44	309.84	90.344	10.094	195.78	56.567	39.333	497.22	44.688	1756.7	1196.7	98.082	2518.1
	33.722	41.194	60.583	842.03	564.44	542.84	38.344	24.094	216.48	116.63	11.667	466.22	103.69	1180.7	513.69	95.782	2634.1

bar z_i =	231.27	95.108	93.125	1251.3	428.36	280.17	51.637	68.844	250.26	146.04	55.911	392	44.727	1439.3	917.52	153.6	1997.5
n_i * bar z_i^2 =	962707	153774	104067	3E+07	3E+06	1E+06	42662	75831	1E+06	319896	46891	2E+06	32007	4E+07	1E+07	401102	5E+07

bar z = 464.51
N = 270

	SS	df	MS	F_{Ratio}	$F_{critical}$
Between Wells	8E+07	16	5E+06	5.07	1.67
Error	2E+08	253	972619		
Total	3E+08	269			

Since the F-ratio = 5.07 exceeds the tabulated value of F-critical = 1.67 (see Table 2 of IFG) with 16 and 253 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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
ln=	5.5215			5.4806	6.0403	5.2983	4.1431	5.7038	4.5326	4.3944	5.1358	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	4.382	4.9416	6.8773	4.8675				
														7.4955	8.4553	4.4998	
														8.0064	6.1092	3.2958	
														6.8876	5.8861	3.7136	
														1.0986		7.1701	
	7.1701	3.7136		0.9163	0.9163	5.0752	3.1355	5.247	6.1312	5.193	5.5215	7.2442	4.7005	6.2916	6.7093	3.6376	
	5.7991	6.2146	6.6201	8.3428	4.7875	5.4381	4.5326	6.0162	6.8134	4.8675	5.7683	7.2442	4.9416	9.0595	7.3778	3.8286	9.3057
	6.3969	4.1897	5.3936	7.4955	5.0752	4.9416	4.7005	4.5218	5.8861	4.5539	4.9416	6.6846	4.9416				7.9374
	5.7683	4.6052		5.3471	5.7366	4.8675	4.5539	4.7005	7.0901	6.363	5.247	5.5984	4.8675	6.8244	5.7683	3.3673	8.497
	5.7683	4.0254	4.7875	6.0162	6.1312	5.1358	4.9416	5.3471	4.1271	4.4427	5.1358	6.8459	5.0106	7.3778	6.7569	3.5835	7.6009
	5.7683	3.6889	5.2983	5.7038	5.7366	4.9416	4.9416	4.8675	2.4849	4.6052	5.7683	6.8024	4.7005	7.901	7.4384	3.3673	8.497
	6.1738	4.0073	5.0752	8.8818	6.4135	5.193	5.0752	4.9416	2.4849	4.3567	5.0106	6.9078	4.9416	7.6009	6.9078	3.434	8.2161
	6.6464	3.6109	5.0752	7.4384	6.7685	5.5215	5.0752	4.9416	3.2958	4.7005	5.6699	6.697	5.0106	8.6125	8.3894	3.2958	7.901
	6.477	5.5215	5.5215	5.5215	7.0031	5.5215	5.5215	5.5215	5.5215	6.7093	5.5215	6.6201	5.5215	5.5215	7.4384	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	7.4955	7.2442	0.9163	6.477
	5.6699	3.912	5.2983	5.4806	7.1701	7.3132	4.8675	5.193	3.912	5.4806	5.5215	3.912	5.0752	5.0752	4.7875	3.912	6.3969
	6.2166	3.45	5.4072	5.2883	7.2079	6.3818	5.2149	5.3375	4.1336	4.4625	5.0039	6.2461	5.3033	7.6009	7.2442	3.4045	6.7708
	5.2679	3.4275	5.5334	5.124	7.1148	6.4938	5.3753	5.3083	4.1239	5.5491	5.5452	5.0173	5.2204	5.1417	5.1299	3.1822	5.8889
	6.1612	4.1897	5.7462	5.4116	7.0984	6.7957	5.0999	5.3753	3.716	4.4284	5.323	5.204	5.4972	6.6161	6.7476	3.2734	5.5013
n =	18	17	12	17	17	16	16	16	16	15	15	16	16	17	16	17	13
bar x_i =	6.083	4.1878	5.4124	5.8584	5.9132	5.2889	4.5298	4.9756	4.7009	4.9659	5.337	5.891	4.527	6.7416	6.7744	3.7296	7.4531
z_{ij} =	0.5616			0.3778	0.1271	0.0094	0.3867	0.7282	0.1683	0.5715	0.2012	0.4529	3.6107				
	0.3792	0.0169															
	0.2839	0.7866															
				0.0593	1.3914												
	1.0871	1.7523		0.6655	0.1141	0.5014	0.1478	0.6943	1.1852	0.5839	0.3954	0.9863	0.3405				
														0.754	1.6809	0.7702	
														1.2648	0.6651	0.4338	
														0.146	0.8883	0.016	
														5.6429		3.4405	
	1.0871	0.4743		4.9421	4.9969	0.2137	1.3943	0.2715	1.4303	0.227	0.1844	1.3532	0.1735	0.45	0.0651	0.092	
	0.2839	2.0268	1.2076	2.4844	1.1257	0.1492	0.0028	1.0406	2.1125	0.0984	0.4313	1.3532	0.4146	2.318	0.6034	0.099	1.8525
	0.3139	0.0018	0.0188	1.6371	0.838	0.3473	0.1707	0.4538	1.1852	0.412	0.3954	0.7936	0.4146				0.4842
	0.3147	0.4173		0.5113	0.1766	0.4214	0.0241	0.2751	2.3892	1.3971	0.09	0.2926	0.3405	0.0828	1.0061	0.3623	1.0438
	0.3147	0.1625	0.625	0.1577	0.2181	0.1531	0.4119	0.3716	0.5738	0.5233	0.2012	0.9549	0.4836	0.6362	0.0175	0.1461	0.1478
	0.3147	0.499	0.1141	0.1546	0.1766	0.3473	0.4119	0.108	2.216	0.3607	0.4313	0.9114	0.1735	1.1594	0.664	0.3623	1.0438
	0.0908	0.1805	0.3373	3.0234	0.5003	0.0959	0.5454	0.0339	2.216	0.6092	0.3264	1.0168	0.4146	0.8593	0.1334	0.2956	0.7629
	0.5634	0.5769	0.3373	1.58	0.8553	0.2326	0.5454	0.0339	1.4051	0.2654	0.3328	0.8061	0.4836	1.8709	1.615	0.4338	0.4479
	0.3939	1.3336	0.109	0.337	1.0899	0.2326	0.9917	0.5459	0.8206	1.7434	0.1844	0.7291	0.9944	1.2201	0.664	1.7919	0.4479
	0.0669	1.0968	0.2195	0.2943	1.0899	4.3726	3.6135	4.0593	0.3743			4.9747	3.6107	0.754	0.4698	2.8133	0.9762
	0.4131	0.2758	0.1141	0.3778	1.257	2.0243	0.3377	0.2174	0.7889	0.5147	0.1844	1.979	0.5482	1.6664	1.9869	0.1824	1.0562
	0.1336	0.7378	0.0053	0.5702	1.2947	1.0929	0.6851	0.362	0.5673	0.5035	0.3331	0.3551	0.7763	0.8593	0.4698	0.3251	0.6824
	0.8152	0.7603	0.1209	0.7345	1.2016	1.2049	0.8455	0.3327	0.577	0.5832	0.2081	0.8737	0.6933	1.5999	1.6445	0.5474	1.5643
	0.0782	0.0018	0.3338	0.4468	1.1852	1.5068	0.5701	0.3997	0.9849	0.5375	0.014	0.687	0.9702	0.1255	0.0268	0.4562	1.9519
bar z_i =	0.4164	0.653	0.2952	1.0796	1.0375	0.8066	0.6928	0.6205	1.1872	0.5954	0.2609	1.1575	0.9027	1.2594	0.7875	0.7393	0.9586
n_i * bar z_i^2 =	3.1216	7.2491	1.0459	19.815	18.3	10.409	7.679	6.1602	22.549	5.3173	1.0211	21.436	13.037	26.963	9.9233	9.2915	11.946

bar z = 0.7912
N = 270

	SS	df	MS	F_{Ratio}	$F_{critical}$
Between Wells	26.25	16	1.64	1.41	1.67
Error	293.66	253	1.16		
Total	319.91	269			

Since the F-ratio = 1.41 does not exceed the tabulated value of F-critical = 1.67 (see Table 2 of IFG) with 16 and 253 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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
4/24/00	250	NS	NS	240	420	200	63	300	93	81	170	230	ND	NS	NS	NS	NS	5
6/26/00	300	67	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	5
9/18/00	NS	NS	NS	330	92	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	500
4/9/01	1300	380	NS	180	330	120	80	290	360	80	140	970	130	NS	NS	NS	NS	5
9/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1800	4700	90	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3000	450	27	NS	5
1/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	980	360	41	NS	5
2/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3	NS	1300	NS	500
4/15/02	1300	41	NS	ND	ND	160	23	190	460	180	250	1400	110	540	820	38	NS	5
9/26/02	330	500	750	4200	120	230	93	410	910	130	320	1400	140	8600	1600	46	11000	5
4/28/03	600	66	220	1800	160	140	110	92	360	95	140	800	140	NT	NT	NT	2800	5
10/30/03	320	100	NT	210	310	130	95	110	1200	580	190	270	130	920	320	29	4900	5
4/20/04	320	56	120	410	460	170	140	210	62	85	170	940	150	1600	860	36	2000	5
10/21/04	320	40	200	300	310	140	140	130	12	100	320	900	110	2700	1700	29	4900	5
4/18/05	480	55	160	7200	610	180	160	140	12	78	150	1000	140	2000	1000	31	3700	5
10/13/05	770	37	160	1700	870	250	160	140	27	110	290	810	150	5500	4400	27	2700	5
4/25/06	650	ND	ND	ND	1100	ND	ND	ND	ND	820	ND	750	ND	ND	1700	ND	2700	500
10/20/06	410	22	180	470	1100	ND	ND	ND	160	NS	NS	ND	ND	1800	1400	ND	650	5
4/25/07	290	ND	200	240	1300	1500	130	180	ND	240	250	ND	160	160	120	ND	600	100
10/31/07	501	31.5	223	198	1350	591	184	208	62.4	86.7	149	516	201	2000	1400	30.1	872	5
4/23/08	194	30.8	253	168	1230	661	216	202	61.8	257	256	151	185	171	169	24.1	361	5
10/20/08	474	66	313	224	1210	894	164	216	41.1	83.8	205	182	244	747	852	26.4	245	5

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

250			240	420	200	63	300	93	81	170	230	2.5				
300	67															
330	30															
			330	92												
1300	380		180	330	120	80	290	360	80	140	970	130				
													1800	4700	90	
													3000	450	27	
													980	360	41	
													3		1300	
1300	41		2.5	2.5	160	23	190	460	180	250	1400	110	540	820	38	
330	500	750	4200	120	230	93	410	910	130	320	1400	140	8600	1600	46	11000
600	66	220	1800	160	140	110	92	360	95	140	800	140				2800
320	100		210	310	130	95	110	1200	580	190	270	130	920	320	29	4900
320	56	120	410	460	170	140	210	62	85	170	940	150	1600	860	36	2000
320	40	200	300	310	140	140	130	12	100	320	900	110	2700	1700	29	4900
480	55	160	7200	610	180	160	140	12	78	150	1000	140	2000	1000	31	3700
770	37	160	1700	870	250	160	140	27	110	290	810	150	5500	4400	27	2700
650	250	250	250	1100	250	250	250	250	820	250	750	250	250	1700	250	2700
410	22	180	470	1100	2.5	2.5	2.5	160			2.5	2.5	1800	1400	2.5	650
290	50	200	240	1300	1500	130	180	50	240	250	50	160	160	120	50	600
501	31.5	223	198	1350	591	184	208	62.4	86.7	149	516	201	2000	1400	30.1	872
194	30.8	253	168	1230	661	216	202	61.8	257	256	151	185	171	169	24.1	361
474	66	313	224	1210	894	164	216	41.1	83.8	205	182	244	747	852	26.4	245

X_i values =

-6E+07			-6E+07	-1E+07	-8E+07	-2E+08	-4E+07	-2E+08	-2E+08	-1E+08	-7E+07	-3E+08				
-4E+07	-2E+08															
-3E+07	-2E+08															
			-3E+07	-2E+08												
3E+08	-2E+07		-9E+07	-3E+07	-1E+08	-2E+08	-4E+07	-2E+07	-2E+08	-1E+08	4E+07	-1E+08				
													2E+09	7E+10	-2E+08	
													1E+10	-6E+06	-2E+08	
													4E+07	-2E+07	-2E+08	
													-3E+08		3E+08	
3E+08	-2E+08		-3E+08	-3E+08	-1E+08	-2E+08	-9E+07	-5E+06	-9E+07	-6E+07	5E+08	-1E+08	-8E+05	7E+06	-2E+08	
-3E+07	-2E+06	2E+06	5E+10	-1E+08	-7E+07	-2E+08	-1E+07	2E+07	-1E+08	-3E+07	5E+08	-1E+08	5E+11	9E+08	-2E+08	1E+12
-35915	-2E+08	-7E+07	2E+09	-1E+08	-1E+08	-1E+08	-2E+08	-2E+07	-2E+08	-1E+08	5E+06	-1E+08				1E+10
-3E+07	-2E+08		-8E+07	-3E+07	-1E+08	-2E+08	-1E+08	2E+08	-1E+05	-9E+07	-5E+07	-1E+08	2E+07	-3E+07	-2E+08	8E+10
-3E+07	-2E+08	-1E+08	-1E+07	-5E+06	-1E+08	-1E+08	-8E+07	-2E+08	-2E+08	-1E+08	3E+07	-1E+08	9E+08	1E+07	-2E+08	3E+09
-3E+07	-2E+08	-8E+07	-4E+07	-3E+07	-1E+08	-1E+08	-1E+08	-2E+08	-2E+08	-3E+07	2E+07	-1E+08	9E+09	1E+09	-2E+08	8E+10
-4E+06	-2E+08	-1E+08	3E+11	-12156	-9E+07	-1E+08	-1E+08	-2E+08	-2E+08	-1E+08	5E+07	-1E+08	3E+09	5E+07	-2E+08	3E+10
3E+06	-2E+08	-1E+08	1E+09	1E+07	-6E+07	-1E+08	-1E+08	-2E+08	-1E+08	-4E+07	6E+06	-1E+08	1E+11	5E+10	-2E+08	9E+09
4918.8	-6E+07	-6E+07	-6E+07	1E+08	-6E+07	-6E+07	-6E+07	-6E+07	7E+06	-6E+07	2E+06	-6E+07	-6E+07	1E+09	-6E+07	9E+09
-1E+07	-2E+08	-9E+07	-4E+06	1E+08	-3E+08	-3E+08	-3E+08	-1E+08			-3E+08	-3E+08	2E+09	5E+08	-3E+08	4918.8
-4E+07	-2E+08	-8E+07	-6E+07	3E+08	7E+08	-1E+08	-9E+07	-2E+08	-6E+07	-6E+07	-2E+08	-1E+08	-1E+08	-1E+08	-2E+08	-35915
-2E+06	-2E+08	-7E+07	-8E+07	4E+08	-74053	-9E+07	-8E+07	-2E+08	-2E+08	-1E+08	-2E+06	-8E+07	3E+09	5E+08	-2E+08	1E+07
-8E+07	-2E+08	-5E+07	-1E+08	2E+08	21968	-7E+07	-8E+07	-2E+08	-5E+07	-5E+07	-1E+08	-9E+07	-1E+08	-1E+08	-2E+08	-2E+07

	-4E+06	-2E+08	-3E+07	-7E+07	2E+08	2E+07	-1E+08	-7E+07	-2E+08	-2E+08	-8E+07	-9E+07	-6E+07	1E+06	1E+07	-2E+08	-6E+07

X_{bar} = 632.99
SD = 1246.3
N = 270
$1/N\Sigma_i(X_i-X_{bar})^3$ = 9E+09
γ_1 = 4.6543

Since the Coefficient of Skewness of 4.65 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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
ln =	5.5215			5.4806	6.0403	5.2983	4.1431	5.7038	4.5326	4.3944	5.1358	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	4.382	4.9416	6.8773	4.8675				
														7.4955	8.4553	4.4998	
														8.0064	6.1092	3.2958	
														6.8876	5.8861	3.7136	
														1.0986		7.1701	
	7.1701	3.7136		0.9163	0.9163	5.0752	3.1355	5.247	6.1312	5.193	5.5215	7.2442	4.7005	6.2916	6.7093	3.6376	
	5.7991	6.2146	6.6201	8.3428	4.7875	5.4381	4.5326	6.0162	6.8134	4.8675	5.7683	7.2442	4.9416	9.0595	7.3778	3.8286	9.3057
	6.3969	4.1897	5.3936	7.4955	5.0752	4.9416	4.7005	4.5218	5.8861	4.5539	4.9416	6.6846	4.9416				7.9374
	5.7683	4.6052		5.3471	5.7366	4.8675	4.5539	4.7005	7.0901	6.363	5.247	5.5984	4.8675	6.8244	5.7683	3.3673	8.497
	5.7683	4.0254	4.7875	6.0162	6.1312	5.1358	4.9416	5.3471	4.1271	4.4427	5.1358	6.8459	5.0106	7.3778	6.7569	3.5835	7.6009
	5.7683	3.6889	5.2983	5.7038	5.7366	4.9416	4.9416	4.8675	2.4849	4.6052	5.7683	6.8024	4.7005	7.901	7.4384	3.3673	8.497
	6.1738	4.0073	5.0752	8.8818	6.4135	5.193	5.0752	4.9416	2.4849	4.3567	5.0106	6.9078	4.9416	7.6009	6.9078	3.434	8.2161
	6.6464	3.6109	5.0752	7.4384	6.7685	5.5215	5.0752	4.9416	3.2958	4.7005	5.6699	6.697	5.0106	8.6125	8.3894	3.2958	7.901
	6.477	5.5215	5.5215	5.5215	7.0031	5.5215	5.5215	5.5215	5.5215	6.7093	5.5215	6.6201	5.5215	5.5215	7.4384	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	7.4955	7.2442	0.9163	6.477
	5.6699	3.912	5.2983	5.4806	7.1701	7.3132	4.8675	5.193	3.912	5.4806	5.5215	3.912	5.0752	5.0752	4.7875	3.912	6.3969
	6.2166	3.45	5.4072	5.2883	7.2079	6.3818	5.2149	5.3375	4.1336	4.4625	5.0039	6.2461	5.3033	7.6009	7.2442	3.4045	6.7708
	5.2679	3.4275	5.5334	5.124	7.1148	6.4938	5.3753	5.3083	4.1239	5.5491	5.5452	5.0173	5.2204	5.1417	5.1299	3.1822	5.8889
	6.1612	4.1897	5.7462	5.4116	7.0984	6.7957	5.0999	5.3753	3.716	4.4284	5.323	5.204	5.4972	6.6161	6.7476	3.2734	5.5013

X_i values =	0.0012			0.0003	0.2438	-0.002	-2.06	0.0239	-0.688	-1.065	-0.022	1E-05	-91.08				
	0.0239	-1.775															
	0.0564	-8.174															
				0.0564	-0.714												
	5.4014	0.1444		-0.011	0.0564	-0.248	-1.104	0.0165	0.1042	-1.104	-0.106	3.1233	-0.165				
														8.9988	28.088	-0.768	
														17.39	0.3338	-9.524	
														3.1895	0.1042	-4.93	
														-80.45		5.4014	
	5.4014	-4.93		-91.08	-91.08	-0.039	-11.85	-0.005	0.3666	-0.011	0.0012	6.1152	-0.366	0.6723	2.1655	-5.62	
	0.0564	0.5102	1.7476	25.084	-0.248	1E-05	-0.688	0.2167	2.7316	-0.165	0.0439	6.1152	-0.106	48.386	7.555	-3.996	58.868
	0.9452	-1.842	-1E-05	8.9988	-0.039	-0.106	-0.366	-0.714	0.1042	-0.64	-0.106	2.0438	-0.106				16.038
	0.0439	-0.532		-3E-04	0.0331	-0.165	-0.64	-0.366	4.6954	0.8506	-0.005	0.0061	-0.165	2.7962	0.0439	-8.593	29.259
	0.0439	-2.687	-0.248	0.2167	0.3666	-0.022	-0.106	-3E-04	-2.139	-0.921	-0.022	2.9262	-0.066	7.555	2.4135	-6.149	10.437
	0.0439	-5.148	-0.002	0.0239	0.0331	-0.106	-0.106	-0.165	-25.17	-0.532	0.0439	2.6673	-0.366	15.354	8.2771	-8.593	29.259
	0.4359	-2.793	-0.039	41.648	0.9937	-0.011	-0.039	-0.106	-25.17	-1.187	-0.066	3.3226	-0.106	10.437	3.3226	-7.781	21.965
	1.8647	-5.877	-0.039	8.2771	2.4765	0.0012	-0.039	-0.106	-9.524	-0.366	0.0165	2.1044	-0.066	32.674	26.299	-9.524	15.354
	1.1958	0.0012	0.0012	0.0012	4.0008	0.0012	0.0012	0.0012	0.0012	2.1655	0.0012	1.7476	0.0012	0.0012	8.2771	0.0012	15.354
	0.2167	-12.56	-0.011	0.4006	4.0008	-91.08	-91.08	-91.08	-0.039			-91.08	-91.08	8.9988	6.1152	-91.08	1.1958
	0.0165	-3.399	-0.002	0.0003	5.4014	6.8338	-0.165	-0.011	-3.399	0.0003	0.0012	-3.399	-0.039	-0.039	-0.248	-3.399	0.9452
	0.514	-7.594	-6E-07	-0.002	5.7575	0.9022	-0.008	-5E-04	-2.107	-0.866	-0.07	0.5729	-0.001	10.437	6.1152	-8.133	2.4891
	-0.003	-7.857	0.0016	-0.025	4.9062	1.2534	-7E-05	-0.001	-2.155	0.0024	0.0022	-0.063	-0.007	-0.021	-0.023	-11.14	0.106
	0.4146	-1.842	0.0361	-6E-08	4.7656	2.6289	-0.031	-7E-05	-4.909	-0.962	-8E-04	-0.009	0.0005	1.7302	2.3634	-9.83	0.0006

X_{bar} = 5.4156
SD = 1.542
N = 270
$1/N\Sigma_i(X_i-X_{bar})^3$ = -1.879
γ_1 = 0.5154

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 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-12	MDL
9/18/2001	**1800**	**5**
10/29/2001	**3000**	**5**
1/30/2002	**980**	**5**
4/15/2002	**540**	**5**
9/26/2002	**8600**	**5**
10/30/2003	**920**	**5**
4/20/2004	**1600**	**5**
10/21/2004	**2700**	**5**
4/18/2005	**2000**	**5**
10/13/2005	**5500**	**5**
4/25/2006	ND	**500**
10/20/2006	**1800**	**5**
4/25/2007	**160**	**100**
10/31/2007	**2000**	**5**
4/23/2008	**171**	**5**
10/20/2008	**747**	**5**

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

	X_i values =
1800	-15252992
3000	862801408
980	-1.22E+09
540	-3.43E+09
8600	2.813E+11
920	-1.44E+09
1600	-89915392
2700	277167808
2000	-110592
5500	4.114E+10
250	-5.81E+09
1800	-15252992
160	-6.73E+09
2000	-110592
171	-6.61E+09
747	-2.2E+09

X_{bar} =	2048
SD =	2209.1459
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	1.85E+10
γ_1=	1.8902395

Since the Coefficient of Skewness of 1.89 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 =	X_i values =
7.4955419	0.0646251
8.0063676	0.7588592
6.8875526	-0.00883
6.2915691	-0.517153
9.0595175	7.5904769
6.8243737	-0.019655
7.3777589	0.0227892
7.9010071	0.5250954
7.6009025	0.1300607
8.6125034	3.499758
5.5214609	-3.890509
7.4955419	0.0646251
5.0751738	-8.23103
7.6009025	0.1300607
5.1416636	-7.444349
6.6160652	-0.109338

X_{bar} = 7.0942439
SD = 1.1523156
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.464657
γ_1 = 0.3345502

Since the Coefficient of Skewness of 0.33 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-12	MDL	Data for Testing
9/18/2001	**1800**	5	7.4955419
10/29/2001	**3000**	5	8.0063676
1/30/2002	**980**	5	6.8875526
4/15/2002	**540**	5	6.2915691
9/26/2002	**8600**	5	9.0595175
10/30/2003	**920**	5	6.8243737
4/20/2004	**1600**	5	7.3777589
10/21/2004	**2700**	5	7.9010071
4/18/2005	**2000**	5	7.6009025
10/13/2005	**5500**	5	8.6125034
4/25/2006	ND	500	5.5214609
10/20/2006	**1800**	5	7.4955419
4/25/2007	**160**	100	5.0751738
10/31/2007	**2000**	5	7.6009025
4/23/2008	**171**	5	5.1416636
10/20/2008	**747**	5	6.6160652

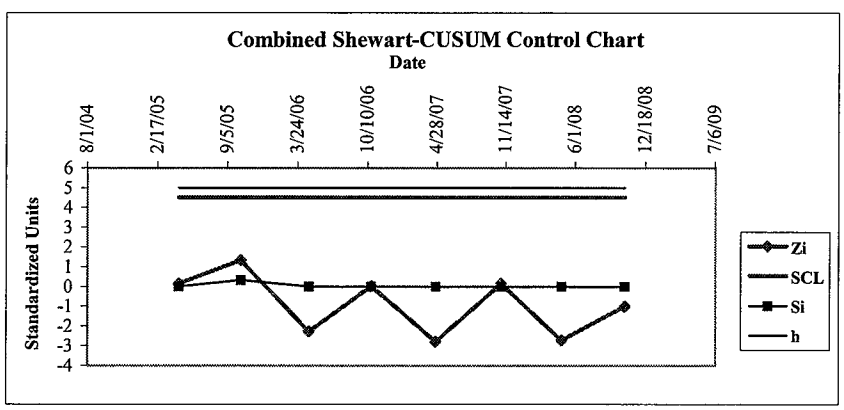
Compute the mean and standard deviation of the historical data:

7.480461 = x_{mean} (Mean of N1-N8 historical data)
0.8579948 = 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	7.6009025	0.14037546	0	5	4.5
10/13/2005	8.6125034	1.31940458	0.3194046	5	4.5
4/25/2006	5.5214609	-2.2832306	0	5	4.5
10/20/2006	7.4955419	0.01757691	0	5	4.5
4/25/2007	5.0751738	-2.8033819	0	5	4.5
10/31/2007	7.6009025	0.14037546	0	5	4.5
4/23/2008	5.1416636	-2.7258876	0	5	4.5
10/20/2008	6.6160652	-1.0074604	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:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-13S	MDL
9/18/2001	**4700**	**5**
10/29/2001	**450**	**5**
1/30/2002	**360**	**5**
4/15/2002	**820**	**5**
9/26/2002	**1600**	**5**
10/30/2003	**320**	**5**
4/20/2004	**860**	**5**
10/21/2004	**1700**	**5**
4/18/2005	**1000**	**5**
10/13/2005	**4400**	**5**
4/25/2006	**1700**	**500**
10/20/2006	**1400**	**5**
4/25/2007	**120**	**100**
10/31/2007	**1400**	**5**
4/23/2008	**169**	**5**
10/20/2008	**852**	**5**

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

		X_i values =
	4700	3.707E+10
	450	-7.68E+08
	360	-1.02E+09
	820	-1.62E+08
	1600	12864306
	320	-1.14E+09
	860	-1.29E+08
	1700	37364386
	1000	-48902419
	4400	2.794E+10
	1700	37364386
	1400	40397.741
	120	-1.93E+09
	1400	40397.741
	169	-1.71E+09
	852	-1.36E+08

X_{bar} =	1365.6875
SD =	1353.6057
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	3.628E+09
γ_1=	1.6113769

Since the Coefficient of Skewness of 1.61 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 =	8.4553178	4.7494602
	6.1092476	-0.294274
	5.886104	-0.700913
	6.7093043	-0.000276
	7.3777589	0.2196548
	5.768321	-1.018329
	6.7569324	-5.32E-06
	7.4383835	0.2927414
	6.9077553	0.0023719
	8.3893598	4.2120178
	7.4383835	0.2927414
	7.2442275	0.1037129
	4.7874917	-7.843851
	7.2442275	0.1037129
	5.1298987	-4.447313
	6.7475865	-1.93E-05

X_{bar} = 6.7743938
SD = 1.0340784
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.270535
γ_1 = 0.2695298

Since the Coefficient of Skewness of 0.27 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-13S	MDL	Data for Testing
9/18/2001	**4700**	5	8.4553178
10/29/2001	**450**	5	6.1092476
1/30/2002	**360**	5	5.886104
4/15/2002	**820**	5	6.7093043
9/26/2002	**1600**	5	7.3777589
10/30/2003	**320**	5	5.768321
4/20/2004	**860**	5	6.7569324
10/21/2004	**1700**	5	7.4383835
4/18/2005	**1000**	5	6.9077553
10/13/2005	**4400**	5	8.3893598
4/25/2006	**1700**	500	7.4383835
10/20/2006	**1400**	5	7.2442275
4/25/2007	**120**	100	4.7874917
10/31/2007	**1400**	5	7.2442275
4/23/2008	**169**	5	5.1298987
10/20/2008	**852**	5	6.7475865

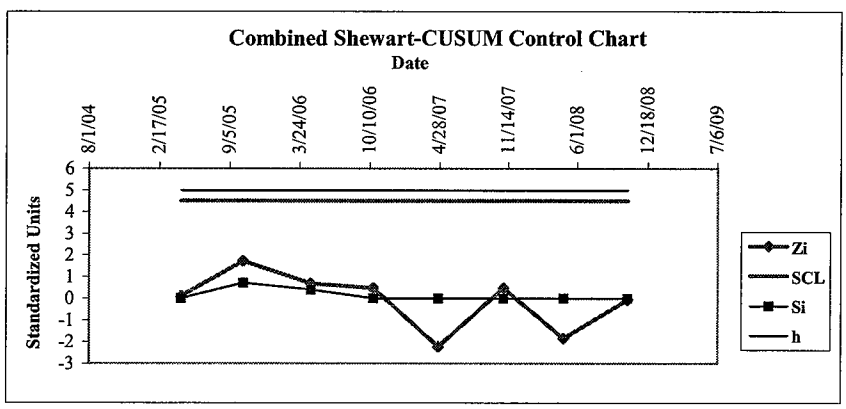
Compute the mean and standard deviation of the historical data:

6.8126712 = x_{mean} (Mean of N1-N8 historical data)
0.915495 = 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	6.9077553	0.10386084	0	5	4.5
10/13/2005	8.3893598	1.72222519	0.7222252	5	4.5
4/25/2006	7.4383835	0.68346884	0.405694	5	4.5
10/20/2006	7.2442275	0.47139121	0	5	4.5
4/25/2007	4.7874917	-2.2121141	0	5	4.5
10/31/2007	7.2442275	0.47139121	0	5	4.5
4/23/2008	5.1298987	-1.8381011	0	5	4.5
10/20/2008	6.7475865	-0.0710923	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:	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**

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

		X_i values =
	11000	5.356E+11
	2800	-494480.6
	4900	8.254E+09
	2000	-6.79E+08
	4900	8.254E+09
	3700	553232128
	2700	-5742736
	2700	-5742736
	650	-1.11E+10
	600	-1.18E+10
	872	-8.09E+09
	361	-1.6E+10
	245	-1.83E+10

X_{bar} = 2879.0769
SD = 2931.2275
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 3.744E+10
γ_1 = 1.6761409

Since the Coefficient of Skewness of 1.68 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 =	9.3056506	6.3574224
	7.9373747	0.1135439
	8.4969905	1.1373997
	7.6009025	0.0032261
	8.4969905	1.1373997
	8.2160881	0.4441018
	7.9010071	0.0898345
	7.9010071	0.0898345
	6.4769724	-0.930197
	6.3969297	-1.178292
	6.7707894	-0.317706
	5.888878	-3.827628
	5.5012582	-7.436378

X_{bar} = 7.4531414

SD = 1.1416897
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.332111
γ_1= 0.2516412

Since the Coefficient of Skewness of 0.25 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

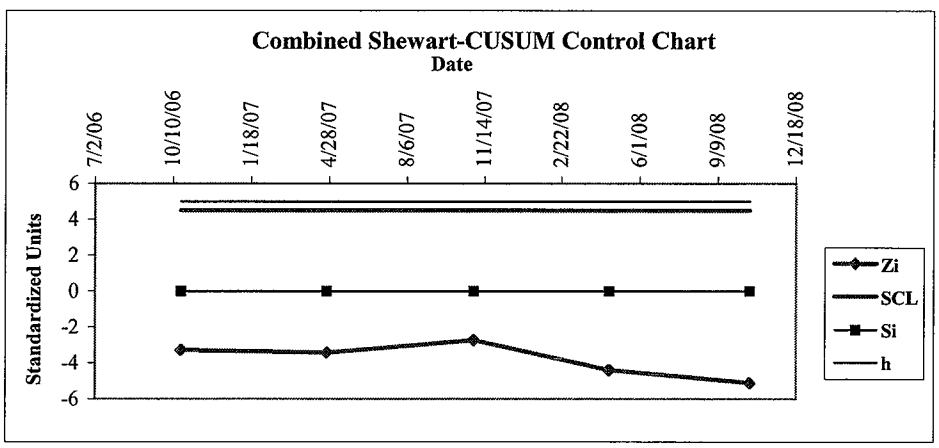
Compute the mean and standard deviation of the historical data:

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

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	4.4	NS	NS	ND	2	ND	2.2	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	2
06/26/00	ND	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	2
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	2
04/09/01	2.3	7	NS	ND	ND	ND	ND	ND	2.4	ND	ND	4.8	ND	NS	NS	NS	NS	2
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4	5.3	ND	NS	2
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.2	ND	ND	NS	2
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.5	ND	ND	NS	2
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	2
04/15/02	2.1	ND	NS	ND	ND	ND	ND	ND	2.5	ND	ND	5	ND	2.1	2.2	ND	NS	2
09/26/02	ND	7	2.1	5.1	ND	ND	ND	ND	8.5	ND	ND	4.7	ND	13	3.6	ND	95	2
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	2.2	ND	NT	NT	NT	20	2
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	33	1
04/20/04	ND	ND	ND	ND	ND	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	ND	ND	1.4	ND	1.4	1.2	ND	28	1
04/18/05	ND	ND	ND	7.2	ND	ND	ND	ND	ND	ND	ND	3.8	ND	3	1.5	ND	26	1
10/13/05	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	3.4	ND	11	9.5	ND	21	1
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND	ND	ND	ND	ND	ND	17	2
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	2.9	2.4	ND	5.7	1
04/25/07	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.9	1
10/31/07	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	3	1
10/20/08	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	1
N_i	18	17	12	16	16	16	16	16	16	15	15	16	16	16	16	16	13	
sum of rank values (R_i)	2280.5	2199.5	1387.5	2113.0	1808.5	1848.0	1815.0	1696.0	2443.5	1590.0	1590.0	2601.5	1696.0	2871.5	2577.5	1696.0	3297.0	
avg rank value (Rbar)	126.7	129.4	115.6	132.1	113.0	115.5	113.4	106.0	152.7	106.0	106.0	162.6	106.0	179.5	161.1	106.0	253.6	

	Number of each rank value																	Rank Value
rank value of NDs =	15	14	11	13	15	15	15	16	10	15	15	9	16	7	9	16	0	106
rank value of 1.2s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	212.5
rank value of 1.4s =	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	214.5
rank value of 1.5s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	216
rank value of 1.9s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	217
rank value of 2s =	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	218.5
rank value of 2.1s =	1	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	221.5
rank value of 2.2s =	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	225
rank value of 2.3s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	227
rank value of 2.4s =	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	229
rank value of 2.5s =	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	231.5
rank value of 2.9s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	233
rank value of 3s =	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	235
rank value of 3.4s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	237
rank value of 3.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	238
rank value of 3.8s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	239
rank value of 4s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	240
rank value of 4.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	241
rank value of 4.4s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242
rank value of 4.5s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	243
rank value of 4.7s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	244
rank value of 4.8s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	245
rank value of 4.9s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	246
rank value of 5.1s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	247
rank value of 5.3s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	248
rank value of 5.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	249
rank value of 6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	250
rank value of 7s =	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	251.5
rank value of 7.2s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	253
rank value of 8.5s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	254
rank value of 9.5s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	255
rank value of 11s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	256
rank value of 13s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	257
rank value of 14s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	258
rank value of 17s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	259

rank value of 20s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	260
rank value of 21s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	261.5
rank value of 26s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	263
rank value of 28s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	264
rank value of 33s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	265
rank value of 95s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	266
n =	**18**	**17**	**12**	**16**	**16**	**16**	**16**	**16**	**16**	**15**	**15**	**16**	**16**	**16**	**16**	**16**	**13**	

Sum of rank value calculations

1590	1484	1166	1378	1590	1590	1590	1696	1060	1590	1590	954	1696	742	954	1696	0
0	212.5	0	0	0	0	0	0	0	0	0	0	0	0	212.5	0	0
0	0	0	0	0	0	0	0	0	0	0	214.5	0	214.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	216	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217
0	0	0	0	218.5	0	0	0	218.5	0	0	0	0	0	0	0	0
221.5	0	221.5	0	0	0	0	0	221.5	0	0	0	0	221.5	0	0	0
0	0	0	0	0	0	225	0	0	0	0	225	0	0	225	0	0
227	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	458	0	0	0	0	0	229	0	0
0	0	0	0	0	0	0	0	231.5	0	0	0	0	231.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	233	0	0	0
0	0	0	235	0	0	0	0	0	0	0	0	0	235	0	0	235
0	0	0	0	0	0	0	0	0	0	0	237	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	238	0	0
0	0	0	0	0	0	0	0	0	0	0	239	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	240	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	241	0	0	0
242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	243	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	244	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	245	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	246
0	0	0	247	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	248	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	249
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250
0	503	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	253	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	254	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	255	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	256	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	257	0	0	0
0	0	0	0	0	258	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	523
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	263
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	264
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	265
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	266
sum of rank values (R_i)	**2280.5**	**2199.5**	**1387.5**	**2113**	**1808.5**	**1848**	**1815**	**1696**	**2443.5**	**1590**	**1590**	**2601.5**	**1696**	**2871.5**	**2577.5**	**1696**	**3297**

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-5A**	**MW-5D**	**MW-8**	**MW-9**	**MW-12**	**MW-13S**	**MW-13D**	**MW-15**
Ri^2/N_i =	732501.2	279048	204417	213444	205889	179776	373168	168540	168540	422988	179776	515345	415219	179776	836170
N_{ibg} = 47															

N = 266
H = 56.41

Adjust H for ties:

T_i = 9E+06 sum of T1..T9

$H' = H/(1-(T_i/(N^3-N)))$
H' = 112.63
Chi-square = 23.68

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 23.68 which is less than H' =112.63.
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-5A	MW-5D	MW-8	MW-9	**MW-12**	MW-13S	MW-13D	**MW-15**
Rbar (well x) =	132.1	113.0	115.5	113.4	106.0	152.7	106.0	106.0	162.6	106.0	179.5	161.1	106.0	253.6
avg Rbar (background) =	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8	124.8
Dx =	7.2	-11.8	-9.3	-11.4	-18.8	27.9	-18.8	-18.8	37.8	-18.8	54.6	36.3	-18.8	128.8
Cx =	51.9	51.9	51.9	51.9	51.9	51.9	53.2	53.2	51.9	51.9	51.9	51.9	51.9	56.2
Statistical Significance ?	No	No	No	No	No	No	No	No	No	No	**Yes**	No	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 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-12	MDL
9/18/2001	4	2
10/29/2001	**4.2**	2
1/30/2002	**2.5**	2
4/15/2002	**2.1**	2
9/26/2002	**13**	2
10/30/2003	ND	1
4/20/2004	ND	1
10/21/2004	**1.4**	1
4/18/2005	**3**	1
10/13/2005	**11**	1
4/25/2006	ND	2
10/20/2006	**2.9**	1
4/25/2007	ND	1
10/31/2007	ND	1
4/23/2008	ND	1
10/20/2008	ND	1

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

	X_i values =
4	0.9813669
4.2	1.7011404
2.5	-0.129746
2.1	-0.744293
13	998.12617
0.5	-15.74248
0.5	-15.74248
1.4	-4.144188
3	-2.44E-07
11	510.80094
1	-8.075235
2.9	-0.001199
0.5	-15.74248
0.5	-15.74248
0.5	-15.74248
0.5	-15.74248

X_{bar} = 3.00625
SD = 3.7556125
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = 87.753754
γ_1 = 1.8250152

Since the Coefficient of Skewness of 1.83 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 = 1.3862944	0.728597
1.4350845	0.8536557
0.9162907	0.079413
0.7419373	0.0166746
2.5649494	8.9793162
-0.693147	-1.641393
-0.693147	-1.641393
0.3364722	-0.003374
1.0986123	0.2293918
2.3978953	6.9835883
0	-0.115118
1.0647107	0.1933517
-0.693147	-1.641393
-0.693147	-1.641393
-0.693147	-1.641393
-0.693147	-1.641393

X_{bar} = 0.4864602
SD = 1.1328548
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = 0.5060713
γ_1 = 0.3834706

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-12	MDL	Data for Testing
9/18/2001	**4**	2	1.3862944
10/29/2001	**4.2**	2	1.4350845
1/30/2002	**2.5**	2	0.9162907
4/15/2002	**2.1**	2	0.7419373
9/26/2002	**13**	2	2.5649494
10/30/2003	ND	1	-0.693147
4/20/2004	ND	1	-0.693147
10/21/2004	**1.4**	1	0.3364722
4/18/2005	**3**	1	1.0986123
10/13/2005	**11**	1	2.3978953
4/25/2006	ND	2	0
10/20/2006	**2.9**	1	1.0647107
4/25/2007	ND	1	-0.693147
10/31/2007	ND	1	-0.693147
4/23/2008	ND	1	-0.693147
10/20/2008	ND	1	-0.693147

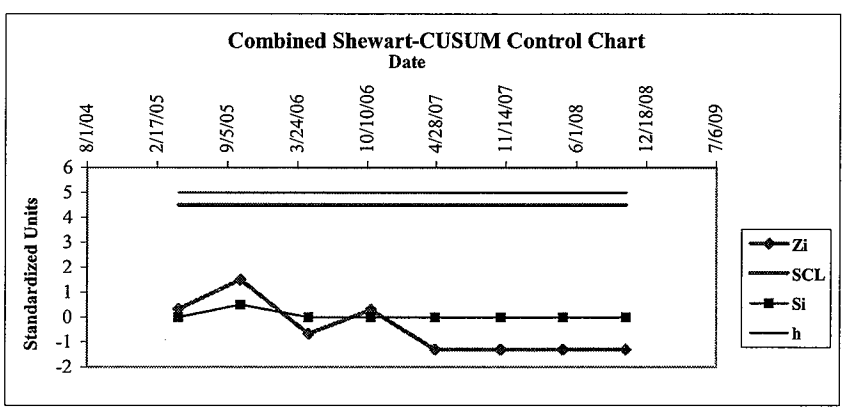
Compute the mean and standard deviation of the historical data:

0.7493418 = x_{mean} (Mean of N1-N8 historical data)
1.1040393 = 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	1.0986123	0.31635696	0	5	4.5
10/13/2005	2.3978953	1.49320183	0.4932018	5	4.5
4/25/2006	0	-0.6787274	0	5	4.5
10/20/2006	1.0647107	0.28565012	0	5	4.5
4/25/2007	-0.693147	-1.3065558	0	5	4.5
10/31/2007	-0.693147	-1.3065558	0	5	4.5
4/23/2008	-0.693147	-1.3065558	0	5	4.5
10/20/2008	-0.693147	-1.3065558	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:	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

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

	X_i values =
95	393337.09
20	-5.184627
33	1431.1423
21	-0.390248
28	246.40117
26	77.812415
21	-0.390248
17	-105.8755
5.7	-4119.676
4.9	-4767.733
6	-3892.691
3	-6571.535
1.9	-7798.637

X_{bar} = 21.730769
SD = 24.343322
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 28294.641
γ_1 = 2.2116064

Since the Coefficient of Skewness of 2.21 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 =	X_i values =
4.5538769	7.798452
2.9957323	0.0767205
3.4965076	0.7932306
3.0445224	0.1062989
3.3322045	0.4413871
3.2580965	0.3246406
3.0445224	0.1062989
2.8332133	0.0180668
1.7404662	-0.572509
1.5892352	-0.945753
1.7917595	-0.472831
1.0986123	-3.190828
0.6418539	-7.177461

X_{bar} = 2.5708156

SD =	1.1063413
N =	13
$1/N\Sigma_i(X_i-X_{bar})^3$ =	-0.207253
γ_1=	0.1725744

Since the Coefficient of Skewness of 0.17 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

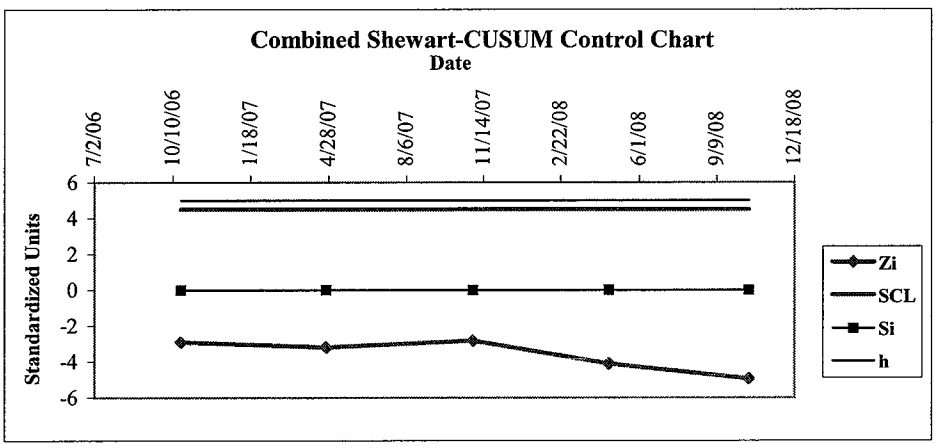
Compute the mean and standard deviation of the historical data:

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

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	2	NS	NS	ND	1.3	1.2	1.3	2.1	ND	ND	ND	5.4	ND	NS	NS	NS	NS	1
06/26/00	1.6	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	1
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	1
04/09/01	130	2	NS	ND	ND	ND	1.7	1.8	2.7	ND	ND	19	ND	NS	NS	NS	NS	1
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10	8.9	ND	NS	1
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16	ND	ND	NS	1
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3.9	ND	ND	NS	1
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4300	NS	2.5	NS	1
04/15/02	13	ND	NS	ND	ND	ND	4	ND	5.5	1.2	ND	19	ND	2.3	2.2	ND	NS	10
09/26/02	ND	ND	4.2	21	ND	10	ND	2.3	4.2	ND	ND	19	ND	27	5.4	ND	180	1
04/28/03	3.6	ND	ND	6	ND	ND	ND	ND	2.9	ND	ND	16	ND	NT	NT	NT	20	1
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.8	ND	3.7	1.2	ND	8.9	1
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	1
04/18/05	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	1
04/25/06	ND	ND	ND	ND	ND	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	NS	NS	ND	ND	4.6	4.7	ND	5.2	1
04/25/07	ND	ND	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	ND	ND	1
04/23/08	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	1
N_i	18	17	12	16	16	16	16	16	16	15	15	16	16	17	16	17	13	
sum of rank values (R_i)	2841.5	2069.5	1420.5	2013.0	1823.5	2093.0	2076.0	2078.5	2361.5	1714.0	1605.0	2612.0	1712.0	2967.5	2489.0	2061.0	2108.5	
avg rank value (Rbar)	157.9	121.7	118.4	125.8	114.0	130.8	129.8	129.9	147.6	114.3	107.0	163.3	107.0	174.6	155.6	121.2	162.2	

	Number of each rank value																	Rank Value
rank value of NDs =	11	15	11	14	15	13	13	13	11	14	15	10	16	9	10	15	8	107
rank value of 1.1s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	214
rank value of 1.2s =	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	216
rank value of 1.3s =	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	218.5
rank value of 1.5s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	220
rank value of 1.6s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	222
rank value of 1.7s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	224.5
rank value of 1.8s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	226
rank value of 2s =	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	227.5
rank value of 2.1s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	229
rank value of 2.2s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	230.5
rank value of 2.3s =	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	232.5
rank value of 2.5s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	234
rank value of 2.7s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	235
rank value of 2.9s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	236
rank value of 3.2s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237
rank value of 3.6s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	238
rank value of 3.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	239
rank value of 3.8s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	240
rank value of 3.9s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	241
rank value of 4s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	242
rank value of 4.2s =	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	243.5
rank value of 4.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	245
rank value of 4.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	246
rank value of 5.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	247
rank value of 5.4s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	248.5
rank value of 5.5s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	250
rank value of 6s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	251
rank value of 8.8s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	252
rank value of 8.9s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	253.5
rank value of 10s =	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	255.5
rank value of 13s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	257
rank value of 16s =	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	258.5
rank value of 19s =	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	261
rank value of 20s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	263

rank value of 21s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	264
rank value of 27s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	265
rank value of 130s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	266
rank value of 180s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	267
rank value of 4300s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	268
n =	**18**	**17**	**12**	**16**	**16**	**16**	**16**	**16**	**16**	**15**	**15**	**16**	**16**	**17**	**16**	**17**	**13**	

Sum of rank value calculations

1177	1605	1177	1498	1605	1391	1391	1391	1177	1498	1605	1070	1712	963	1070	1605	856
214	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	216	0	0	0	216	0	0	0	0	216	0	0
0	0	0	0	218.5	0	218.5	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	220	0	0	0	0	0	0	0	0
222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	222	222
0	0	0	0	0	0	224.5	0	0	0	0	0	0	0	224.5	0	0
0	0	0	0	0	0	0	226	0	0	0	0	0	0	0	0	0
227.5	227.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	229	0	0	0	0	0	0	0	0	0
0	0	0	0	0	230.5	0	0	0	0	0	0	0	0	230.5	0	0
0	0	0	0	0	0	0	232.5	0	0	0	0	0	232.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	234	0
0	0	0	0	0	0	0	0	235	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	236	0	0	0	0	0	0	0	0
0	237	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
238	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	239	0	0	0
240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	241	0	0	0
0	0	0	0	0	0	242	0	0	0	0	0	0	0	0	0	0
0	0	243.5	0	0	0	0	0	243.5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	245	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	246	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	247
0	0	0	0	0	0	0	0	0	0	0	248.5	0	0	248.5	0	0
0	0	0	0	0	0	0	0	250	0	0	0	0	0	0	0	0
0	0	0	251	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	252	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	253.5	0	253.5
0	0	0	0	0	255.5	0	0	0	0	0	0	0	255.5	0	0	0
257	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	258.5	0	258.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	783	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	263
0	0	0	264	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	265	0	0	0
266	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	267
0	0	0	0	0	0	0	0	0	0	0	0	0	268	0	0	0
sum of rank values (R_i)	**2841.5**	**2069.5**	**1420.5**	**2013**	**1823.5**	**2093**	**2076**	**2078.5**	**2361.5**	**1714**	**1605**	**2612**	**1712**	**2967.5**	**2489**	**2061**	**2108.5**

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-5A**	**MW-5D**	**MW-8**	**MW-9**	**MW-12**	**MW-13S**	**MW-13D**	**MW-15**
Ri^2/N_i =	852933.9	253261	207822	273791	269361	270010	348543	195853	171735	426409	183184	518003	387195	249866	341982

$N_{i\,bg}$ = 47
N = 268
H = 16.94

Adjust H for ties:

T_i = 1E+07 sum of T1..T8

$H' = H/(1-(T_i/(N^3-N)))$

H' = 34.02

Chi-square = 23.68

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 23.68 which is less than H' =34.02.
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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
Rbar (well x) =	125.8	114.0	130.8	129.8	129.9	147.6	114.3	107.0	163.3	107.0	174.6	155.6	121.2	162.2
avg Rbar (background) =	134.7	134.7	134.7	134.7	134.7	134.7	134.7	134.7	134.7	134.7	134.7	134.7	134.7	134.7
Dx =	-8.9	-20.7	-3.9	-5.0	-4.8	12.9	-20.4	-27.7	28.5	-27.7	39.8	20.8	-13.5	27.5
Cx =	52.3	52.3	52.3	52.3	52.3	52.3	53.6	53.6	52.3	52.3	51.1	52.3	51.1	56.6
Statistical Significance ?	No	No	No	No	No	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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	15	NS	NS	18	17	11	ND	26	5.4	ND	ND	50	ND	NS	NS	NS	NS	5
06/26/00	22	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	10
04/09/01	130	ND	NS	11	8.4	ND	ND	20	27	ND	ND	160	ND	NS	NS	NS	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	51	66	5.4	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	82	ND	ND	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	21	ND	ND	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	10
04/15/02	170	ND	NS	ND	ND	5.7	7	10	56	13	7.1	180	ND	9.2	12	ND	NS	5
09/26/02	33	5.4	33	510	ND	5.2	ND	37	36	5.5	9.1	230	ND	180	52	ND	770	5
04/28/03	ND	ND	ND	89	ND	ND	ND	ND	ND	ND	ND	110	ND	NT	NT	NT	27	5
10/30/03	30	ND	NT	ND	6.2	ND	ND	ND	31	83	ND	4.6	ND	22	3.9	ND	140	2
04/20/04	33	ND	2.1	45	13	ND	ND	11	3.5	ND	2.9	190	ND	50	12	ND	68	2
10/21/04	21	ND	2.8	16	2	ND	ND	ND	ND	ND	5.5	120	ND	14	21	ND	140	2
04/18/05	49	12	8.3	680	2.9	ND	ND	3.2	ND	ND	2.4	210	ND	36	18	ND	100	2
10/13/05	52	ND	3.7	230	4.7	ND	ND	ND	ND	5.3	6.8	150	ND	130	130	ND	88	2
04/25/06	65	ND	16	ND	ND	ND	ND	ND	16	200	ND	100	ND	ND	20	ND	93	10
10/20/06	50	ND	11	24	ND	ND	ND	ND	17	NS	NS	ND	ND	43	31	ND	27	5
04/25/07	20	ND	ND	16	ND	410	ND	ND	ND	31	ND	ND	ND	ND	ND	ND	17	10
10/31/07	40.9	ND	11.9	10.9	7.8	ND	ND	ND	5.1	ND	ND	75.5	ND	40.7	52.3	ND	33.7	5
04/23/08	10.7	ND	16.8	7.8	ND	ND	ND	ND	7.6	ND	ND	7.3	ND	ND	ND	ND	14.9	5
10/20/08	38.6	ND	29.4	12.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.6	9.1	ND	6.8	5
N_i	18	17	12	16	16	16	16	16	16	15	15	16	16	16	16	16	13	
sum of rank values (R_i)	3729.0	1435.5	1841.0	2899.5	1777.5	1515.5	1138.5	1750.0	2226.0	1774.5	1483.5	3242.0	1048.0	2964.0	2667.0	1129.5	2890.0	
avg rank value (Rbar)	207.2	84.4	153.4	181.2	111.1	94.7	71.2	109.4	139.1	118.3	98.9	202.6	65.5	185.3	166.7	70.6	222.3	

	Number of each rank value																	Rank Value
rank value of NDs =	1	14	2	3	8	12	15	10	6	9	9	3	16	3	4	15	0	65.5
rank value of 2s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	131
rank value of 2.1s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132
rank value of 2.4s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	133
rank value of 2.8s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	134
rank value of 2.9s =	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	135.5
rank value of 3.2s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	137
rank value of 3.5s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	138
rank value of 3.7s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	139
rank value of 3.9s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	140
rank value of 4.6s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	141
rank value of 4.7s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	142
rank value of 5.1s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	143
rank value of 5.2s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	144
rank value of 5.3s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	145
rank value of 5.4s =	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	147
rank value of 5.5s =	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	149.5
rank value of 5.7s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	151
rank value of 6.2s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	152
rank value of 6.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	153
rank value of 6.8s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	154.5
rank value of 7s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	156
rank value of 7.1s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	157
rank value of 7.3s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	158
rank value of 7.6s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	159
rank value of 7.8s =	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	160.5
rank value of 8.3s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	162
rank value of 8.4s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	163
rank value of 9.1s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	164.5
rank value of 9.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	166
rank value of 10s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	167
rank value of 10.7s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	168
rank value of 10.9s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	169
rank value of 11s =	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	171.5
rank value of 11.9s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174
rank value of 12s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	176
rank value of 12.7s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	178
rank value of 13s =	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	179.5
rank value of 14s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	181
rank value of 14.9s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	182
rank value of 15s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	183
rank value of 16s =	0	0	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	185.5
rank value of 16.8s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	188
rank value of 17s =	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	190
rank value of 18s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	192.5
rank value of 20s =	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	195.5
rank value of 21s =	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	199
rank value of 22s =	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	201.5
rank value of 24s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	203
rank value of 26s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	204
rank value of 27s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	206
rank value of 29s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	208
rank value of 29.4s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	209
rank value of 30s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	210
rank value of 31s =	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	212
rank value of 33s =	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	215
rank value of 33.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	217

rank value of 36s =	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	218.5
rank value of 37s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	220
rank value of 38.6s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221
rank value of 40.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	222
rank value of 40.9s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223
rank value of 43s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	224
rank value of 45s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	225
rank value of 49s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226
rank value of 50s =	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	228
rank value of 51s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	230
rank value of 52s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	231.5
rank value of 52.3s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	233
rank value of 56s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	234
rank value of 65s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235
rank value of 66s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	236
rank value of 68s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	237
rank value of 75.5s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	238
rank value of 82s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	239
rank value of 83s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	240
rank value of 88s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	241
rank value of 89s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	242
rank value of 93s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	243
rank value of 100s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	244.5
rank value of 110s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	246
rank value of 120s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	247
rank value of 130s =	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	249
rank value of 140s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	251.5
rank value of 150s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	253
rank value of 160s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	254
rank value of 170s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	255
rank value of 180s =	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	256.5
rank value of 190s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	258
rank value of 200s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	259
rank value of 210s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	260
rank value of 230s =	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	261.5
rank value of 410s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	263
rank value of 510s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	264
rank value of 680s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	265
rank value of 770s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	266
n =	**18**	**17**	**12**	**16**	**16**	**16**	**16**	**16**	**16**	**15**	**15**	**16**	**16**	**16**	**16**	**16**	**13**	

Sum of rank value calculations

65.5	917	131	196.5	524	786	982.5	655	393	589.5	589.5	196.5	1048	196.5	262	982.5	0
0	0	0	0	131	0	0	0	0	0	0	0	0	0	0	0	0
0	0	132	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	133	0	0	0	0	0	0
0	0	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	135.5	0	0	0	0	0	135.5	0	0	0	0	0	0
0	0	0	0	0	0	0	137	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	138	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	140	0	0
0	0	0	0	0	0	0	0	0	0	0	141	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	0	0	0	143	0	0	0	0	0	0	0	0
0	0	0	0	0	144	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	145	0	0	0	0	0	0	0
0	147	0	0	0	0	0	0	147	0	0	0	0	0	0	147	0
0	0	0	0	0	0	0	0	0	149.5	149.5	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	152	0	0	0	0	0	0	0	0	0	0	0	0
0	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	154.5	0	0	0	0	0	154.5
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	0	157	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	0	0	0	159	0	0	0	0	0	0	0	0
0	0	0	160.5	160.5	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	0	0	0	163	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	164.5	0	0	0	164.5	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	166	0	0	0
0	0	0	0	0	0	0	167	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	0
0	0	0	169	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	171.5	171.5	0	171.5	0	171.5	0	0	0	0	0	0	0	0	0
0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	176	0	0	0	0	0	0	0	0	0	0	0	0	352	0	0
0	0	0	178	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	179.5	0	0	0	0	179.5	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	0	0	0	0	0	0	0	0	0	0	0	182
183	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	185.5	371	0	0	0	0	185.5	0	0	0	0	0	0	0	0
0	0	188	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	190	0	0	0	190	0	0	0	0	0	0	0	190
0	0	0	192.5	0	0	0	0	0	0	0	0	0	0	192.5	0	0
195.5	195.5	0	0	0	0	0	195.5	0	0	0	0	0	0	195.5	0	0
199	0	0	0	0	0	0	0	0	0	0	0	0	199	199	0	0
201.5	0	0	0	0	0	0	0	0	0	0	0	0	201.5	0	0	0
0	0	0	203	0	0	0	0	0	0	0	0	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	0	0	0	0	206	0	0	0	0	0	0	0	412
208	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	0	0	0
210	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0	0	0	0	212	212	0	0	0	0	212	0	0
430	0	215	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217
0	0	0	0	0	0	0	0	218.5	0	0	0	0	218.5	0	0	0
0	0	0	0	0	0	0	220	0	0	0	0	0	0	0	0	0
221	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	222	0	0	0
223	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	224	0	0	0
0	0	0	225	0	0	0	0	0	0	0	0	0	0	0	0	0
226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
228	0	0	0	0	0	0	0	0	0	0	228	0	228	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	230	0	0	0
231.5	0	0	0	0	0	0	0	0	0	0	0	0	0	231.5	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	233	0	0
0	0	0	0	0	0	0	0	234	0	0	0	0	0	0	0	0
235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	236	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237
0	0	0	0	0	0	0	0	0	0	0	238	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	239	0	0	0
0	0	0	0	0	0	0	0	0	240	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	241
0	0	0	242	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	243
0	0	0	0	0	0	0	0	0	0	0	244.5	0	0	0	0	244.5
0	0	0	0	0	0	0	0	0	0	0	246	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	247	0	0	0	0	0
249	0	0	0	0	0	0	0	0	0	0	0	0	249	249	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	503
0	0	0	0	0	0	0	0	0	0	0	253	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	254	0	0	0	0	0
255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	256.5	0	256.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	258	0	0	0	0	0
0	0	0	0	0	0	0	0	0	259	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	260	0	0	0	0	0
0	0	0	261.5	0	0	0	0	0	0	0	261.5	0	0	0	0	0
0	0	0	0	0	263	0	0	0	0	0	0	0	0	0	0	0
0	0	0	264	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	265	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	266
sum of rank values (R_i)	**3729**	**1435.5**	**1841**	**2899.5**	**1777.5**	**1515.5**	**1138.5**	**1750**	**2226**	**1774.5**	**1483.5**	**3242**	**1048**	**2964**	**2667**	**1129.5**	**2890**

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-5A**	**MW-5D**	**MW-8**	**MW-9**	**MW-12**	**MW-13S**	**MW-13D**	**MW-15**
Ri^2/N_i =	1044192.1	525444	197469	143546	81011	191406	309692	209923	146718	656910	68644	549081	444556	79736	642469

$N_{i\,bg}$ = 47
N = 266
H = 92.94

Adjust H for ties:

T_i = 2E+06 sum of T1..T2

$H' = H/(1-(T_i/(N^3-N)))$
H' = 105.23
Chi-square = 23.68

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 23.68 which is less than H' =105.23.
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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
Rbar (well x) =	181.2	111.1	94.7	71.2	109.4	139.1	118.3	98.9	202.6	65.5	185.3	166.7	70.6	222.3
avg Rbar (background) =	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1
Dx =	32.2	-38.0	-54.3	-77.9	-39.7	-9.9	-30.8	-50.2	53.6	-83.6	36.2	17.6	-78.5	73.3
Cx =	51.9	51.9	51.9	51.9	51.9	51.9	53.2	53.2	51.9	51.9	51.9	51.9	51.9	56.2
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**	No	No	No	No	**Yes**
SI, is current event above MCL?	-	-	-	-	-	-	-	-	No	-	-	-	-	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-8	MDL
4/24/2000	**50**	**5**
4/9/2001	**160**	**5**
4/15/2002	**180**	**5**
9/26/2002	**230**	**5**
4/28/2003	**110**	**5**
10/30/2003	**5**	**2**
4/20/2004	**190**	**2**
10/21/2004	**120**	**2**
4/18/2005	**210**	**2**
10/13/2005.	**150**	**2**
4/25/2006	**100**	**10**
10/20/2006	ND	**5**
4/25/2007	ND	**10**
10/31/2007	**76**	**5**
4/23/2008	**7**	**5**
10/20/2008	ND	**5**

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

	X_i values =
50	-123785.2
160	217759.76
180	515126.34
230	2205249.1
110	1049.5465
4.6	-863821.4
190	732955.88
120	8196.5887
210	1336907.5
150	126222.72
100	0.004291
2.5	-922232.8
5	-852982.8
75.5	-14415.44
7.3	-792416.1
2.5	-922232.8

X_{bar} =	99.8375
SD =	81.212387
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	40723.799
γ_1 =	0.0837577

Since the Coefficient of Skewness of 0.08 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 = 3.912023	0.0019418
5.0751738	2.1362708
5.1929569	2.7776099
5.4380793	4.4987869
4.7004804	0.7615896
1.5260563	-11.56169
5.2470241	3.1106016
4.7874917	1.0006832
5.3471075	3.7952734
5.0106353	1.8309429
4.6051702	0.547155
0.9162907	-23.66396
1.6094379	-10.32927
4.3241327	0.1547405
1.9878743	-5.82607
0.9162907	-23.66396

X_{bar} = 3.7872641
SD = 1.7283223
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -3.401835
γ_1 = 0.7259089

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	**50**	5	50
4/9/2001	**160**	5	160
4/15/2002	**180**	5	180
9/26/2002	**230**	5	230
4/28/2003	**110**	5	110
10/30/2003	**4.6**	2	4.6
4/20/2004	**190**	2	190
10/21/2004	**120**	2	120
4/18/2005	**210**	2	210
10/13/2005	**150**	2	150
4/25/2006	**100**	10	100
10/20/2006	ND	5	2.5
4/25/2007	ND	10	5
10/31/2007	**75.5**	5	75.5
4/23/2008	**7.3**	5	7.3
10/20/2008	ND	5	2.5

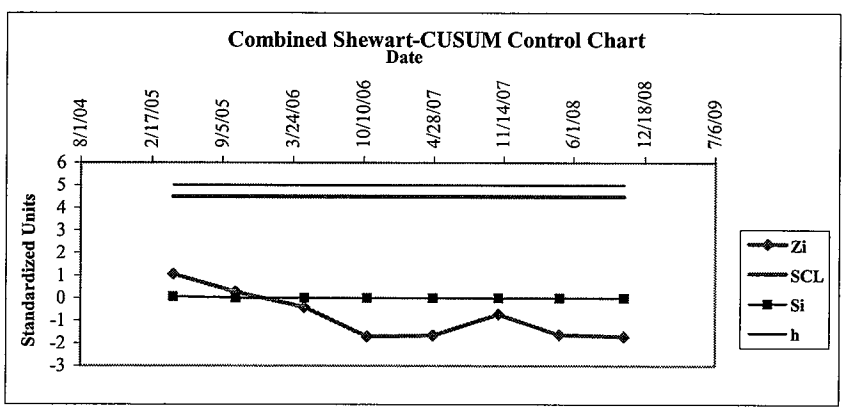
Compute the mean and standard deviation of the historical data:

130.575 = x_{mean} (Mean of N1-N8 historical data)
75.235359 = 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	210	1.05568712	0.0556871	5	4.5
10/13/2005	150	0.25818977	0	5	4.5
4/25/2006	100	-0.4063914	0	5	4.5
10/20/2006	2.5	-1.7023246	0	5	4.5
4/25/2007	5	-1.6690955	0	5	4.5
10/31/2007	75.5	-0.7320361	0	5	4.5
4/23/2008	7.3	-1.6385248	0	5	4.5
10/20/2008	2.5	-1.7023246	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 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**

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

	X_i values =
770	278012332
27	-737255.6
140	11637.727
68	-120103.8
140	11637.727
100	-5212.327
88	-25252.94
93	-14417.15
27	-737255.6
17	-1010188
33.7	-585083.8
14.9	-1074952
6.8	-1350642

X_{bar} = 117.33846
SD = 201.51093
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 20951942
γ_1 = 2.8871652

Since the Coefficient of Skewness of 2.89 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 =	X_i values =
6.6463905	18.65523
3.2958369	-0.34064
4.9416424	0.8503948
4.2195077	0.0114332
4.9416424	0.8503948
4.6051702	0.2280349
4.4773368	0.1127551
4.5325995	0.1560441
3.2958369	-0.34064
2.8332133	-1.564994
3.5174978	-0.108347
2.7013612	-2.16103
1.9169226	-8.963978

X_{bar} = 3.9942276

SD = 1.2353752
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 0.5680507
γ_1= 0.3397298

Since the Coefficient of Skewness of 0.34 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

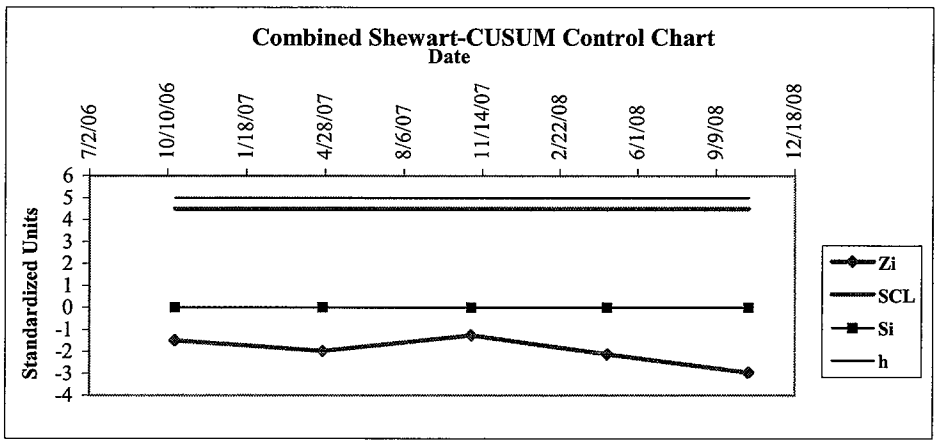
Compute the mean and standard deviation of the historical data:

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

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	ND	NS	NS	ND	8.2	5.4	ND	14	ND	ND	ND	16	ND	NS	NS	NS	NS	5
06/26/00	10	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	10
04/09/01	54	ND	NS	ND	ND	ND	13	12	13	ND	ND	59	8.1	NS	NS	NS	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	54	53	ND	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	87	ND	ND	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	28	5.7	ND	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5.1	NS	15	NS	10
04/15/02	58	ND	NS	ND	ND	ND	18	8	21	ND	ND	82	6.8	13	12	ND	NS	5
09/26/02	13	5.4	16	100	ND	16	7.4	21	19	ND	ND	85	7.7	200	30	ND	560	5
04/28/03	21	ND	ND	37	ND	ND	6.9	ND	17	ND	ND	50	ND	NT	NT	NT	81	5
10/30/03	9	ND	NT	ND	ND	ND	5.7	ND	52	11	ND	8.8	ND	28	ND	ND	110	5
04/20/04	9.5	ND	ND	7.7	5.2	ND	13	6.4	ND	ND	ND	43	ND	47	7.4	ND	50	5
10/21/04	6.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	31	ND	42	12	ND	120	5
04/18/05	12	ND	ND	110	ND	ND	ND	ND	ND	ND	ND	36	ND	82	9.3	ND	70	5
10/13/05	21	ND	ND	32	ND	ND	5.1	ND	ND	ND	ND	29	ND	150	48	ND	56	5
04/25/06	16	ND	ND	ND	ND	ND	ND	ND	ND	22	ND	25	ND	170	12	ND	57	10
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	13	ND	ND	5
04/25/07	ND	ND	ND	ND	ND	260	ND	ND	ND	ND	10	ND	ND	92	ND	ND	ND	10
10/31/07	16.8	ND	ND	ND	10.6	ND	ND	ND	ND	ND	ND	ND	ND	147	102	ND	17.6	5
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5	ND	ND	ND	115	ND	ND	22.3	5
10/20/08	27	10.4	19.5	9.4	7.7	ND	12.6	5.3	7.1	8.8	8	ND	ND	41.7	21.8	6.6	18.4	5
N_i	18	17	12	16	16	16	16	16	16	15	15	16	16	17	16	17	13	
sum of rank values (R_i)	3198.0	1529.0	1210.5	2127.5	1646.5	1657.5	2107.5	1911.0	2047.0	1623.0	1386.0	2933.5	1542.5	3928.5	2813.5	1551.5	2833.0	
avg rank value (Rbar)	177.7	89.9	100.9	133.0	102.9	103.6	131.7	119.4	127.9	108.2	92.4	183.3	96.4	231.1	175.8	91.3	217.9	

	Number of each rank value																	Rank Value
rank value of NDs =	4	15	10	10	12	13	8	10	10	11	13	5	13	1	4	15	2	78.5
rank value of 5.1s =	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	157.5
rank value of 5.2s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	159
rank value of 5.3s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	160
rank value of 5.4s =	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	161.5
rank value of 5.5s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	163
rank value of 5.7s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	164.5
rank value of 6.2s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	166
rank value of 6.4s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	167
rank value of 6.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	168
rank value of 6.8s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	169
rank value of 6.9s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	170
rank value of 7.1s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	171
rank value of 7.4s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	172.5
rank value of 7.7s =	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	175
rank value of 8s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	177
rank value of 8.1s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	178
rank value of 8.2s =	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	179.5
rank value of 8.8s =	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	181.5
rank value of 9s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	183
rank value of 9.3s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	184
rank value of 9.4s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	185
rank value of 9.5s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	186
rank value of 9.9s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	187
rank value of 10s =	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	188.5
rank value of 10.4s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190
rank value of 10.6s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	191
rank value of 11s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	192
rank value of 12s =	1	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0	0	195
rank value of 12.6s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	198
rank value of 13s =	1	0	0	0	0	0	2	0	1	0	0	0	0	1	1	0	0	201.5
rank value of 14s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	205
rank value of 15s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	206
rank value of 16s =	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	208.5
rank value of 16.8s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	211
rank value of 17s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	212
rank value of 17.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	213
rank value of 18s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	214
rank value of 18.4s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	215
rank value of 19s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	216
rank value of 19.5s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217
rank value of 21s =	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	219.5
rank value of 21.8s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	222
rank value of 22s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	223
rank value of 22.3s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	224
rank value of 25s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	225
rank value of 27s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226
rank value of 28s =	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	227.5
rank value of 29s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	229

rank value of 30s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	230
rank value of 31s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	231
rank value of 32s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	232
rank value of 36s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	233
rank value of 37s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	234
rank value of 41.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	235
rank value of 42s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	236
rank value of 43s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	237
rank value of 47s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	238
rank value of 48s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	239
rank value of 50s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	240.5
rank value of 52s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	242
rank value of 53s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	243
rank value of 54s =	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	244.5
rank value of 56s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	246
rank value of 57s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	247
rank value of 58s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	248
rank value of 59s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	249
rank value of 70s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	250
rank value of 81s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	251
rank value of 82s =	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	252.5
rank value of 85s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	254
rank value of 87s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	255
rank value of 92s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	256
rank value of 100s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	257
rank value of 102s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	258
rank value of 110s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	259.5
rank value of 115s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	261
rank value of 120s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	262
rank value of 147s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	263
rank value of 150s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	264
rank value of 170s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	265
rank value of 200s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	266
rank value of 260s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	267
rank value of 560s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	268
n =	**18**	**17**	**12**	**16**	**16**	**16**	**16**	**16**	**16**	**15**	**15**	**16**	**16**	**17**	**16**	**17**	**13**	

Sum of rank value calculations

314	1177.5	785	785	942	1020.5	628	785	785	863.5	1020.5	392.5	1020.5	78.5	314	1177.5	157
0	0	0	0	0	0	157.5	0	0	0	0	0	0	157.5	0	0	0
0	0	0	0	159	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	160	0	0	0	0	0	0	0	0	0
0	161.5	0	0	0	161.5	0	0	0	0	0	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	164.5	0	0	0	0	0	0	0	164.5	0	0
166	0	0	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	0
0	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	169	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	0	171	0	0	0	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	175	175	0	0	0	0	0	0	0	175	0	0	0	0
0	0	0	0	0	0	0	0	0	0	177	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	178	0	0	0	0
0	0	0	0	179.5	0	0	179.5	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	181.5	0	181.5	0	0	0	0	0
183	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	184	0	0
0	0	0	185	0	0	0	0	0	0	0	0	0	0	0	0	0
186	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188.5	0	0	0	0	0	0	0	0	0	188.5	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	192	0	0	0	0	0	0	0
195	0	0	0	0	0	0	195	0	0	0	0	0	0	585	0	0
0	0	0	0	0	0	198	0	0	0	0	0	0	0	0	0	0
201.5	0	0	0	0	0	403	0	201.5	0	0	0	0	201.5	201.5	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	0	0	0	206	0
208.5	0	208.5	0	0	208.5	0	0	0	0	0	208.5	0	0	0	0	0
211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	212	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	213
0	0	0	0	0	0	214	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	215
0	0	0	0	0	0	0	0	216	0	0	0	0	0	0	0	0
0	0	217	0	0	0	0	0	0	0	0	0	0	0	0	0	0
439	0	0	0	0	0	0	219.5	219.5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	222	0	0
0	0	0	0	0	0	0	0	0	223	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224
0	0	0	0	0	0	0	0	0	0	0	225	0	0	0	0	0
226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	455	0	0	0
0	0	0	0	0	0	0	0	0	0	0	229	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	230	0	0

0	0	0	0	0	0	0	0	0	0	0	231	0	0	0	0	0
0	0	0	232	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	233	0	0	0	0	0
0	0	0	234	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	235	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	236	0	0	0
0	0	0	0	0	0	0	0	0	0	0	237	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	238	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	239	0	0
0	0	0	0	0	0	0	0	0	0	0	240.5	0	0	0	0	240.5
0	0	0	0	0	0	0	0	242	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	243	0	0
244.5	0	0	0	0	0	0	0	0	0	0	0	0	244.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	246
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	247
248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	249	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	251
0	0	0	0	0	0	0	0	0	0	0	252.5	0	252.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	254	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	255	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	256	0	0	0
0	0	0	257	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	258	0	0
0	0	0	259.5	0	0	0	0	0	0	0	0	0	0	0	0	259.5
0	0	0	0	0	0	0	0	0	0	0	0	0	261	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	262
0	0	0	0	0	0	0	0	0	0	0	0	0	263	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	264	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	265	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	266	0	0	0
0	0	0	0	0	267	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	268
sum of rank values (R_i)	**3198**	**1529**	**1210.5**	**2127.5**	**1646.5**	**1657.5**	**2107.5**	**1911**	**2047**	**1623**	**1386**	**2933.5**	**1542.5**	**3928.5**	**2813.5**	**1551.5**	**2833**

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-5A**	**MW-5D**	**MW-8**	**MW-9**	**MW-12**	**MW-13S**	**MW-13D**	**MW-15**
Ri^2/N_i =	750083.1	282891	169435	171707	277597	228245	261888	175609	128066	537839	148707	907830	494736	141597	617376

$N_{i\,bg}$ = 47
N = 268
H = 74.14

Adjust H for ties:

T_i = 4E+06 sum of T1..T6

$H' = H/(1-(T_i/(N^3-N)))$
H' = 92.36
Chi-square = 23.68

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 23.68 which is less than H' =92.36.
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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
Rbar (well x) =	133.0	102.9	103.6	131.7	119.4	127.9	108.2	92.4	183.3	96.4	231.1	175.8	91.3	217.9
avg Rbar (background) =	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3	126.3
Dx =	6.6	-23.4	-22.7	5.4	-6.9	1.6	-18.1	-33.9	57.0	-29.9	104.8	49.5	-35.1	91.6
Cx =	52.3	52.3	52.3	52.3	52.3	52.3	53.6	53.6	52.3	52.3	51.1	52.3	51.1	56.6
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**	No	**Yes**	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	NE	-	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 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-8	MDL
4/24/2000	16	5
4/9/2001	59	5
4/15/2002	82	5
9/26/2002	85	5
4/28/2003	50	5
10/30/2003	9	5
4/20/2004	43	5
10/21/2004	31	5
4/18/2005	36	5
10/13/2005	29	5
4/25/2006	25	10
10/20/2006	ND	5
4/25/2007	ND	10
10/31/2007	ND	5
4/23/2008	ND	5
10/20/2008	ND	5

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

	X_i values =
16	-2736.657
59	24420.551
82	140709.42
85	166488.46
50	8015.0094
8.8	-9511.284
43	2203.3436
31	1.0379707
36	217.35281
29	-0.962967
25	-124.0648
2.5	-20768.53
5	-15601.57
2.5	-20768.53
2.5	-20768.53
2.5	-20768.53

X_{bar} =	29.9875
SD =	27.685661
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	14437.908
γ_1=	0.749519

Since the Coefficient of Skewness of 0.75 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 =	2.7725887	-6.5E-08
	4.0775374	2.2017086
	4.4067192	4.3316227
	4.4426513	4.624425
	3.912023	1.4637345
	2.1747517	-0.218012
	3.7612001	0.9544809
	3.4339872	0.2840829
	3.5835189	0.5253813
	3.3672958	0.2060967
	3.2188758	0.0865071
	0.9162907	-6.438164
	1.6094379	-1.590025
	0.9162907	-6.438164
	0.9162907	-6.438164
	0.9162907	-6.438164

X_{bar} = 2.7766094
SD = 1.3311496
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.805166
γ_1 = 0.3760519

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	**16**	5	16
4/9/2001	**59**	5	59
4/15/2002	**82**	5	82
9/26/2002	**85**	5	85
4/28/2003	**50**	5	50
10/30/2003	**8.8**	5	8.8
4/20/2004	**43**	5	43
10/21/2004	**31**	5	31
4/18/2005	**36**	5	36
10/13/2005	**29**	5	29
4/25/2006	**25**	10	25
10/20/2006	ND	5	2.5
4/25/2007	ND	10	5
10/31/2007	ND	5	2.5
4/23/2008	ND	5	2.5
10/20/2008	ND	5	2.5

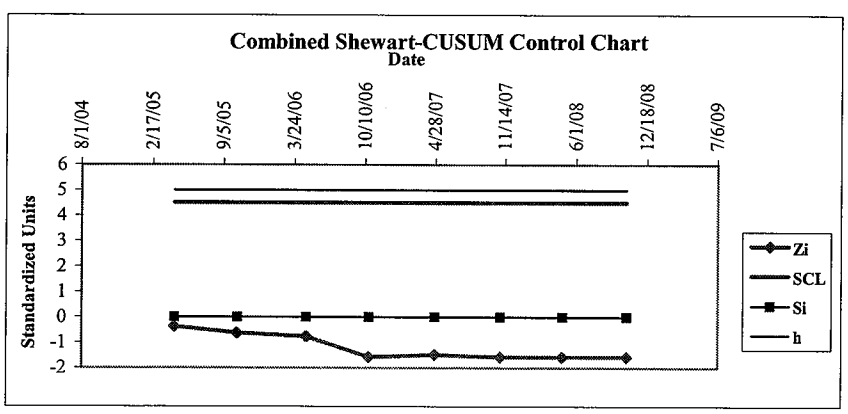
Compute the mean and standard deviation of the historical data:

46.85 = x_{mean} (Mean of N1-N8 historical data)
28.066401 = 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	36	-0.3865832	0	5	4.5
10/13/2005	29	-0.6359918	0	5	4.5
4/25/2006	25	-0.7785109	0	5	4.5
10/20/2006	2.5	-1.5801812	0	5	4.5
4/25/2007	5	-1.4911068	0	5	4.5
10/31/2007	2.5	-1.5801812	0	5	4.5
4/23/2008	2.5	-1.5801812	0	5	4.5
10/20/2008	2.5	-1.5801812	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:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-12	MDL
9/18/2001	**54**	**5**
10/29/2001	**87**	**5**
1/30/2002	**28**	**5**
4/15/2002	**13**	**5**
9/26/2002	**200**	**5**
10/30/2003	**28**	**5**
4/20/2004	**47**	**5**
10/21/2004	**42**	**5**
4/18/2005	**82**	**5**
10/13/2005	**150**	**5**
4/25/2006	**170**	**10**
10/20/2006	ND	**5**
4/25/2007	**92**	**10**
10/31/2007	**147**	**5**
4/23/2008	**115**	**5**
10/20/2008	**41.7**	**5**

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

	X_i values =
54	-20123.65
87	195.112
28	-150568.8
13	-317214.6
200	1676676.7
28	-150568.8
47	-40001.69
42	-60236.29
82	0.512
150	325660.67
170	700227.07
2.5	-487443.4
92	1259.712
147	284890.31
115	38614.472
41.7	-61629.88

X_{bar} =	81.2
SD =	59.926121
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	108733.6
γ_1=	0.5566194

Since the Coefficient of Skewness of 0.56 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 =	3.988984	-2.06E-06
	4.4659081	0.1000204
	3.3322045	-0.300108
	2.5649494	-2.965926
	5.2983174	2.1798053
	3.3322045	-0.300108
	3.8501476	-0.003482
	3.7376696	-0.01841
	4.4067192	0.0664309
	5.0106353	1.0269921
	5.1357984	1.4585856
	0.9162907	-29.37283
	4.5217886	0.1406655
	4.9904326	0.9665253
	4.7449321	0.4105276
	3.7305011	-0.01995

X_{bar} = 4.0017177
SD = 1.1198868
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -1.664454
γ_1 = 1.3055471

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

Part 2: Shewhart-CUSUM Control Chart

Date	MW-12	MDL	Data for Testing
9/18/2001	**54**	5	54
10/29/2001	**87**	5	87
1/30/2002	**28**	5	28
4/15/2002	**13**	5	13
9/26/2002	**200**	5	200
10/30/2003	**28**	5	28
4/20/2004	**47**	5	47
10/21/2004	**42**	5	42
4/18/2005	**82**	5	82
10/13/2005	**150**	5	150
4/25/2006	**170**	10	170
10/20/2006	ND	5	2.5
4/25/2007	**92**	10	92
10/31/2007	**147**	5	147
4/23/2008	**115**	5	115
10/20/2008	**41.7**	5	41.7

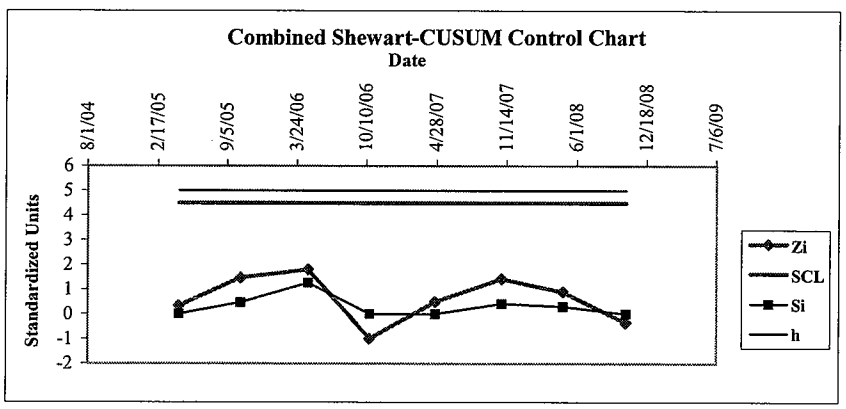
Compute the mean and standard deviation of the historical data:

62.375 = x_{mean} (Mean of N1-N8 historical data)
59.844889 = 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	82	0.3279311	0	5	4.5
10/13/2005	150	1.4642019	0.4642019	5	4.5
4/25/2006	170	1.7983992	1.2626011	5	4.5
10/20/2006	2.5	-1.0005032	0	5	4.5
4/25/2007	92	0.49502974	0	5	4.5
10/31/2007	147	1.41407231	0.4140723	5	4.5
4/23/2008	115	0.87935663	0.2934289	5	4.5
10/20/2008	41.7	-0.3454765	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:	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**

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

	X_i values =
560	103833196
81	-725.2679
110	8018.4757
50	-63926.18
120	27041.56
70	-7981.553
56	-39250.67
57	-35886.76
2.5	-669568.6
5	-613791.6
17.6	-379261.5
22.3	-310077.2
18.4	-366825.1

X_{bar} = 89.984615
SD = 146.16168
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 7798535.5
γ_1 = 2.8161488

Since the Coefficient of Skewness of 2.82 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 =	X_i values =
6.3279368	18.550268
4.3944492	0.3635234
4.7004804	1.060344
3.912023	0.012369
4.7874917	1.3555962
4.2484952	0.182997
4.0253517	0.040919
4.0430513	0.0475536
0.9162907	-21.12681
1.6094379	-8.886713
2.8678989	-0.537087
3.1045867	-0.191273
2.9123507	-0.453705

X_{bar} = 3.6807572

SD = 1.4119497
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.737079
γ_1= 0.2952563

Since the Coefficient of Skewness of 0.30 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

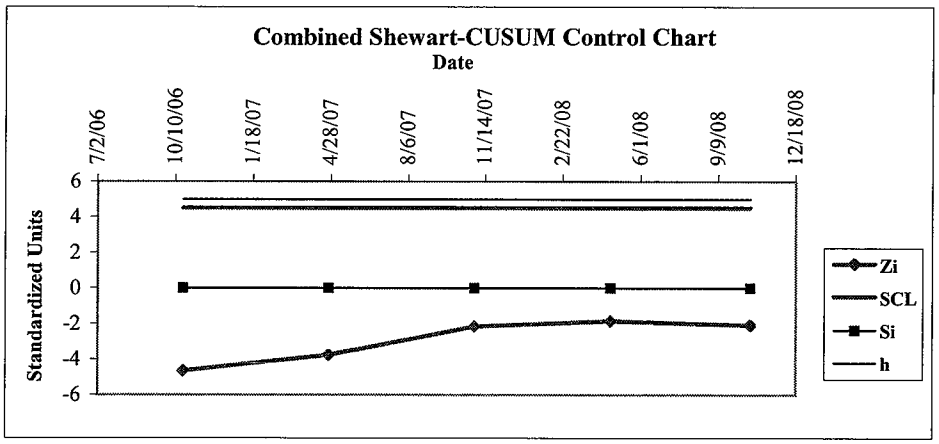
Compute the mean and standard deviation of the historical data:

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

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	12	NS	NS	ND	ND	13	ND	27	ND	ND	ND	22	ND	NS	NS	NS	NS	5
06/26/00	17	6	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	200
04/09/01	77	8.4	NS	ND	ND	5.4	ND	26	38	ND	ND	110	ND	NS	NS	NS	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	35	44	ND	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	47	ND	ND	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16	ND	ND	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	200
04/15/02	69	ND	NS	ND	ND	ND	ND	13	68	4.4	5.1	120	4.7	5.6	8.4	ND	NS	2
09/26/02	20	10	31	220	ND	ND	2.6	42	88	3.3	7.4	150	6.8	100	31	ND	450	2
04/28/03	24	ND	2.6	40	ND	ND	ND	ND	28	ND	ND	94	ND	NT	NT	NT	71	2
10/30/03	18	ND	NT	ND	2.3	2.6	ND	3	85	26	ND	4.4	2.9	16	2.7	ND	150	2
04/20/04	18	ND	2.8	12	5.3	2.3	4.3	13	7.4	ND	2.2	100	2.3	27	8	ND	89	2
10/21/04	11	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	63	ND	11	14	ND	140	2
04/18/05	29	ND	ND	240	ND	ND	ND	3.8	ND	ND	ND	120	ND	25	12	ND	130	2
10/13/05	31	2.6	3.5	70	ND	ND	ND	ND	3	4.6	3.8	82	ND	75	72	ND	96	2
04/25/06	ND	ND	ND	ND	ND	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	NS	NS	ND	ND	ND	ND	ND	25	5
04/25/07	15	ND	ND	ND	ND	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26	10
10/31/07	29.2	ND	ND	ND	ND	ND	ND	ND	6.3	ND	ND	40.3	ND	42.2	35.6	ND	47.4	5
04/23/08	7.2	ND	ND	ND	ND	ND	ND	ND	7.2	ND	ND	ND	ND	ND	ND	ND	17	5
10/20/08	26.5	ND	8.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.7	8.1	ND	9.7	5
N_i	18	17	12	16	16	16	16	16	16	15	15	16	16	16	16	16	13	
sum of rank values (R_i)	3709.5	1794.0	1422.5	2216.5	1377.0	1775.5	1374.5	2082.0	2564.0	1548.0	1499.0	3018.5	1566.0	2909.0	2513.0	1200.0	2942.0	
avg rank value (Rbar)	206.1	105.5	118.5	138.5	86.1	111.0	85.9	130.1	160.3	103.2	99.9	188.7	97.9	181.8	157.1	75.0	226.3	

	Number of each rank value																	Rank Value
rank value of NDs =	1	12	7	9	14	11	14	9	6	11	11	5	12	4	6	16	1	75
rank value of 2s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	150
rank value of 2.2s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	151
rank value of 2.3s =	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	153
rank value of 2.6s =	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	156.5
rank value of 2.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	159
rank value of 2.8s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160
rank value of 2.9s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	161
rank value of 3s =	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	162.5
rank value of 3.3s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	164
rank value of 3.5s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	165
rank value of 3.8s =	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	166.5
rank value of 4.3s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	168
rank value of 4.4s =	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	169.5
rank value of 4.6s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	171
rank value of 4.7s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	172
rank value of 5.1s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	173
rank value of 5.3s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	174
rank value of 5.4s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	175
rank value of 5.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	176
rank value of 6s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	177
rank value of 6.1s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178
rank value of 6.3s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	179
rank value of 6.8s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	180
rank value of 7.2s =	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	181.5
rank value of 7.4s =	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	183.5
rank value of 7.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	185
rank value of 8s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	186
rank value of 8.1s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	187
rank value of 8.3s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	188
rank value of 8.4s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	189.5
rank value of 9.6s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	191
rank value of 9.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	192
rank value of 10s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	193
rank value of 11s =	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	194.5
rank value of 12s =	2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	197.5
rank value of 13s =	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	201
rank value of 14s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	203
rank value of 15s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	204
rank value of 16s =	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	205.5
rank value of 17s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	207.5
rank value of 18s =	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	209.5
rank value of 20s =	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	211.5
rank value of 22s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	213
rank value of 24s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	214
rank value of 25s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	215.5
rank value of 26s =	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	218.5
rank value of 26.5s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221
rank value of 27s =	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	222.5
rank value of 28s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	224
rank value of 29s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225
rank value of 29.2s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226

rank value of 31s =	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	228
rank value of 35s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	230
rank value of 35.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	231
rank value of 38s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	232
rank value of 40s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	233
rank value of 40.3s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	234
rank value of 42s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	235
rank value of 42.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	236
rank value of 44s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	237
rank value of 47s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	238
rank value of 47.4s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	239
rank value of 63s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	240
rank value of 68s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	241
rank value of 69s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242
rank value of 70s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	243
rank value of 71s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	244
rank value of 72s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	245
rank value of 75s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	246
rank value of 77s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	247
rank value of 82s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	248
rank value of 85s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	249
rank value of 88s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	250
rank value of 89s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	251
rank value of 94s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	252
rank value of 96s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	253
rank value of 100s =	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	254.5
rank value of 110s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	256
rank value of 120s =	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	257.5
rank value of 130s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	259
rank value of 140s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	260
rank value of 150s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	261.5
rank value of 220s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	263
rank value of 240s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	264
rank value of 330s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	265
rank value of 450s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	266
n =	**18**	**17**	**12**	**16**	**16**	**16**	**16**	**16**	**16**	**15**	**15**	**16**	**16**	**16**	**16**	**16**	**13**	

Sum of rank value calculations

75	900	525	675	1050	825	1050	675	450	825	825	375	900	300	450	1200	75
0	0	0	150	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	151	0	0	0	0	0	0
0	0	0	0	153	153	0	0	0	0	0	0	153	0	0	0	0
0	156.5	156.5	0	0	156.5	156.5	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	159	0	0
0	0	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	161	0	0	0	0
0	0	0	0	0	0	0	162.5	162.5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	164	0	0	0	0	0	0	0
0	0	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	166.5	0	0	166.5	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	0	0	0	0	169.5	0	169.5	0	0	0	0	0
0	0	0	0	0	0	0	0	0	171	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	172	0	0	0	0
0	0	0	0	0	0	0	0	0	0	173	0	0	0	0	0	0
0	0	0	0	174	0	0	0	0	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
0	0	0	0	0	0	0	0	0	0	0	0	0	176	0	0	0
0	177	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	179	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	180	0	0	0	0
181.5	0	0	0	0	0	0	0	181.5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	183.5	0	183.5	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	0	0	0	0	0	0	0	0	0	186	0	0
0	0	0	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	189.5	0	0	0	0	0	0	0	0	0	0	0	0	189.5	0	0
0	0	0	191	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	192
0	193	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
194.5	0	0	0	0	0	0	0	0	0	0	0	0	194.5	0	0	0
395	0	0	197.5	0	0	0	0	0	0	0	0	0	0	197.5	0	0
0	0	0	0	0	201	0	402	0	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
204	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	411	0	0	0
207.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	207.5
419	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
211.5	0	0	0	0	0	0	0	211.5	0	0	0	0	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	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	215.5	0	0	215.5
218.5	0	0	0	0	0	0	218.5	0	218.5	0	0	0	0	0	0	218.5
221	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	222.5	0	0	0	0	0	222.5	0	0	0
0	0	0	0	0	0	0	0	224	0	0	0	0	0	0	0	0
225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
226	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
228	0	228	0	0	0	0	0	0	0	0	0	0	0	228	0	0

0	0	0	0	0	0	0	0	0	0	0	0	0	230	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	231	0	0
0	0	0	0	0	0	0	0	232	0	0	0	0	0	0	0	0
0	0	0	233	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	234	0	0	0	0	0
0	0	0	0	0	0	0	235	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	236	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	237	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	238	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	239
0	0	0	0	0	0	0	0	0	0	0	240	0	0	0	0	0
0	0	0	0	0	0	0	0	241	0	0	0	0	0	0	0	0
242	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	243	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	244
0	0	0	0	0	0	0	0	0	0	0	0	0	0	245	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	246	0	0	0
247	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	248	0	0	0	0	0
0	0	0	0	0	0	0	0	249	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	250	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	251
0	0	0	0	0	0	0	0	0	0	0	252	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	253
0	0	0	0	0	0	0	0	0	0	0	254.5	0	254.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	256	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	515	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260
0	0	0	0	0	0	0	0	0	0	0	261.5	0	0	0	0	261.5
0	0	0	263	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	264	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	265	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	266
sum of rank values (R_i)	**3709.5**	**1794**	**1422.5**	**2216.5**	**1377**	**1775.5**	**1374.5**	**2082**	**2564**	**1548**	**1499**	**3018.5**	**1566**	**2909**	**2513**	**1200**	**2942**

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
Ri^2/N_i =	1020627.1	307055	118508	197025	118078	270920	410881	159754	149800	569459	153272	528893	394698	90000	665797

$N_{i\,bg}$ = 47
N = 266
H = 69.96

Adjust H for ties:

T_i = 3E+06 sum of T1..T6

$H' = H/(1-(T_i/(N^3-N)))$
H' = 84.88
Chi-square = 23.68

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 23.68 which is less than H' =84.88.
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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
Rbar (well x) =	138.5	86.1	111.0	85.9	130.1	160.3	103.2	99.9	188.7	97.9	181.8	157.1	75.0	226.3
avg Rbar (background) =	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4
Dx =	-8.8	-61.3	-36.4	-61.5	-17.2	12.9	-44.2	-47.4	41.3	-49.5	34.5	9.7	-72.4	78.9
Cx =	51.9	51.9	51.9	51.9	51.9	51.9	53.2	53.2	51.9	51.9	51.9	51.9	51.9	56.2
Statistical Significance ?	No	No	No	No	No	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**

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

	X_i values =
450	41446605
71	-35711.3
150	97776.139
89	-3328.485
140	46925.687
130	17716.774
96	-498.8224
100	-60.73411
25	-491743.9
26	-473289.5
47.4	-180657
17	-656932.2
9.7	-836716.3

X_{bar} = 103.93077
SD = 114.45086
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 2994622
γ_1 = 2.2523092

Since the Coefficient of Skewness of 2.25 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 = 6.1092476	7.2229699
4.2626799	0.0006464
5.0106353	0.5809658
4.4886364	0.0304938
4.9416424	0.4484435
4.8675345	0.3303935
4.5643482	0.0584701
4.6051702	0.0789274
3.2188758	-0.877407
3.2580965	-0.773927
3.8586222	-0.032035
2.8332133	-2.422323
2.2721259	-6.903408

X_{bar} = 4.1762176

SD = 1.0498381
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.173676
γ_1 = 0.1692452

Since the Coefficient of Skewness of 0.17 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

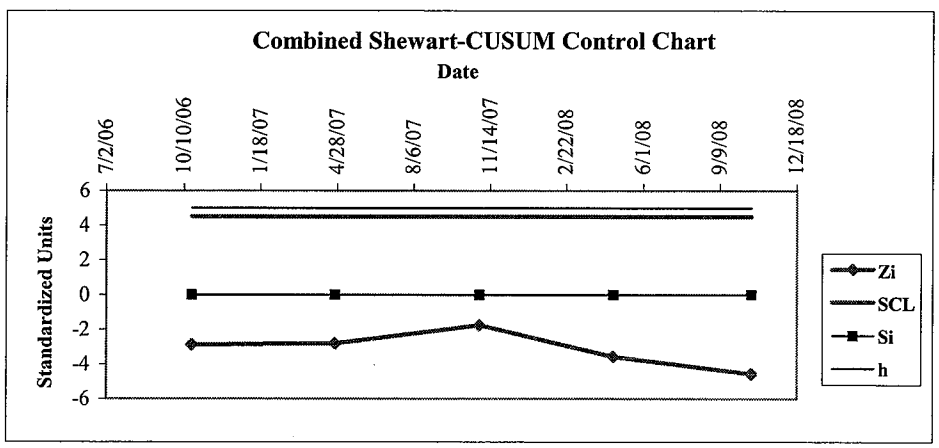
Compute the mean and standard deviation of the historical data:

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

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	35	NS	NS	ND	ND	ND	ND	11	ND	10	ND	ND	ND	NS	NS	NS	NS	10
06/26/00	ND	10	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	10
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	10
04/09/01	ND	59	NS	ND	ND	ND	ND	ND	18	ND	ND	2.5	ND	NS	NS	NS	NS	10
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	27	ND	ND	NS	10
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	43	ND	ND	NS	10
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	26	ND	ND	NS	10
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	11	NS	17	NS	10
04/15/02	13	ND	NS	ND	ND	ND	ND	ND	13	ND	ND	29	ND	14	10	ND	NS	10
09/26/02	ND	76	29	ND	ND	ND	ND	ND	150	ND	ND	20	ND	81	ND	ND	740	10
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	25	ND	ND	ND	ND	NT	NT	NT	300	10
10/30/03	8.7	12	NT	ND	ND	ND	ND	ND	39	25	ND	7.4	ND	29	ND	ND	640	5
04/20/04	7.2	7	5.2	6.4	5.4	ND	ND	ND	12	ND	ND	39	ND	43	12	ND	250	5
10/21/04	7.2	5.6	5.7	ND	ND	ND	ND	ND	ND	ND	5.6	24	ND	18	16	ND	430	5
04/18/05	13	8	5.2	73	ND	ND	ND	ND	ND	ND	ND	39	ND	40	13	ND	380	5
10/13/05	14	6.9	ND	20	ND	ND	ND	ND	ND	ND	ND	29	ND	110	62	ND	290	5
04/25/06	15	ND	ND	ND	ND	ND	ND	ND	53	34	ND	19	ND	ND	18	ND	300	10
10/20/06	20	ND	ND	ND	ND	ND	ND	ND	32	NS	NS	ND	ND	30	37	ND	89	5
04/25/07	ND	ND	ND	ND	ND	96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	69	10
10/31/07	17.5	8.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.3	ND	46.5	23.1	ND	123	5
04/23/08	ND	ND	8.4	ND	ND	ND	ND	ND	5.8	ND	ND	ND	ND	ND	ND	ND	50.2	5
10/20/08	ND	13.5	7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.2	5.1	ND	25.9	5
N_i	18	17	12	16	16	16	16	16	17	15	15	16	16	17	16	17	13	
sum of rank values (R_i)	2820.5	2695.5	1704.5	1822.0	1517.0	1593.0	1424.0	1537.5	2753.0	1735.5	1429.5	2739.0	1424.0	3534.5	2571.5	1641.0	3373.0	
avg rank value (Rbar)	156.7	158.6	142.0	113.9	94.8	99.6	89.0	96.1	161.9	115.7	95.3	171.2	89.0	207.9	160.7	96.5	259.5	

	Number of each rank value																	Rank Value
rank value of NDs =	8	7	6	13	15	15	16	15	8	12	14	6	16	3	7	16	0	89
rank value of 2.5s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	178
rank value of 5.1s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	179
rank value of 5.2s =	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180.5
rank value of 5.4s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	182
rank value of 5.6s =	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	183.5
rank value of 5.7s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	185
rank value of 5.8s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	186
rank value of 6.4s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	187
rank value of 6.9s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	188
rank value of 7s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	189
rank value of 7.2s =	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190.5
rank value of 7.4s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	192
rank value of 7.6s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	193
rank value of 8s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	194
rank value of 8.1s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	195
rank value of 8.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	196
rank value of 8.4s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	197
rank value of 8.7s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	198
rank value of 10s =	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	200
rank value of 11s =	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	202.5
rank value of 12s =	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	205
rank value of 12.3s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	207
rank value of 13s =	2	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	209.5
rank value of 13.5s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212
rank value of 14s =	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	213.5
rank value of 15s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	215
rank value of 16s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	216
rank value of 17s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	217
rank value of 17.5s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	218
rank value of 18s =	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	220
rank value of 19s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	222
rank value of 20s =	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	224
rank value of 23.1s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	226
rank value of 24s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	227
rank value of 25s =	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	228.5
rank value of 25.9s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	230
rank value of 26s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	231

rank value of 27s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	232
rank value of 29s =	0	0	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0	234.5
rank value of 30s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	237
rank value of 32s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	238
rank value of 34s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	239
rank value of 35s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	240
rank value of 37s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	241
rank value of 39s =	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	243
rank value of 40s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	245
rank value of 43s =	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	246.5
rank value of 46.5s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	248
rank value of 50.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	249
rank value of 53s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	250
rank value of 59s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	251
rank value of 62s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	252
rank value of 69s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	253
rank value of 73s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	254
rank value of 76s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	255
rank value of 81s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	256
rank value of 89s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	257
rank value of 96s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	258
rank value of 110s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	259
rank value of 123s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	260
rank value of 150s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	261
rank value of 250s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	262
rank value of 290s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	263
rank value of 300s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	264.5
rank value of 380s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	266
rank value of 430s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	267
rank value of 640s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	268
rank value of 740s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	269
n =	**18**	**17**	**12**	**16**	**16**	**16**	**16**	**16**	**17**	**15**	**15**	**16**	**16**	**17**	**16**	**17**	**13**	

Sum of rank value calculations

712	623	534	1157	1335	1335	1424	1335	712	1068	1246	534	1424	267	623	1424	0
0	0	0	0	0	0	0	0	0	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	361	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
0	183.5	0	0	0	0	0	0	0	0	183.5	0	0	0	0	0	0
0	0	185	0	0	0	0	0	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	0	0	187	0	0	0	0	0	0	0	0	0	0	0	0	0
0	188	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	0	0	0	0	0	0	0
381	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	192	0	0	0	0	0
0	0	193	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	194	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	195	0	0	0	0	0	0	0	0	0	0	0	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
198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	200	0	0	0	0	0	0	0	200	0	0	0	0	200	0	0
0	0	0	0	0	0	0	202.5	0	0	0	0	0	202.5	0	0	0
0	205	0	0	0	0	0	0	205	0	0	0	0	0	205	0	0
0	0	0	0	0	0	0	0	0	0	0	207	0	0	0	0	0
419	0	0	0	0	0	0	0	209.5	0	0	0	0	0	209.5	0	0
0	212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
213.5	0	0	0	0	0	0	0	0	0	0	0	0	213.5	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	0	0	0	0	0	0	0	0	216	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217	0
218	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	220	0	0	0	0	220	220	0	0
0	0	0	0	0	0	0	0	0	0	0	222	0	0	0	0	0
224	0	0	224	0	0	0	0	0	0	0	224	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	226	0	0
0	0	0	0	0	0	0	0	0	0	0	227	0	0	0	0	0
0	0	0	0	0	0	0	0	228.5	228.5	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	230
0	0	0	0	0	0	0	0	0	0	0	0	0	231	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	232	0	0	0
0	0	234.5	0	0	0	0	0	0	0	0	469	0	234.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	237	0	0	0
0	0	0	0	0	0	0	0	238	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	239	0	0	0	0	0	0	0

240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	241	0	0
0	0	0	0	0	0	0	0	243	0	0	486	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	245	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	493	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	248	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	249
0	0	0	0	0	0	0	0	250	0	0	0	0	0	0	0	0
0	251	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	252	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	253
0	0	0	254	0	0	0	0	0	0	0	0	0	0	0	0	0
0	255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	256	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	257
0	0	0	0	0	258	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	259	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260
0	0	0	0	0	0	0	0	261	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	262
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	263
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	529
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	266
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	267
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	268
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	269
sum of rank values (R_i) **2820.5**	**2695.5**	**1704.5**	**1822**	**1517**	**1593**	**1424**	**1537.5**	**2753**	**1735.5**	**1429.5**	**2739**	**1424**	**3534.5**	**2571.5**	**1641**	**3373**

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-5A**	**MW-5D**	**MW-8**	**MW-9**	**MW-12**	**MW-13S**	**MW-13D**	**MW-15**
Ri^2/N_i =	1109268.5	207480	143831	158603	126736	147744	445824	200797	136231	468883	126736	734864	413288	158405	875164

$N_{i\,bg}$ = 47
N = 269
H = 91.09

Adjust H for ties:

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

$H' = H/(1-(T_i/(N^3-N)))$
H' = 127.38
Chi-square = 23.68

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 23.68 which is less than H' =127.38.
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-5A	MW-5D	MW-8	MW-9	**MW-12**	MW-13S	MW-13D	**MW-15**
Rbar (well x) =	113.9	94.8	99.6	89.0	96.1	161.9	115.7	95.3	171.2	89.0	207.9	160.7	96.5	259.5
avg Rbar (background) =	153.6	153.6	153.6	153.6	153.6	153.6	153.6	153.6	153.6	153.6	153.6	153.6	153.6	153.6
Dx =	-39.8	-58.8	-54.1	-64.6	-57.5	8.3	-37.9	-58.3	17.6	-64.6	54.3	7.1	-57.1	105.8
Cx =	52.5	52.5	52.5	52.5	52.5	51.3	53.8	53.8	52.5	52.5	51.3	52.5	51.3	56.8
Statistical Significance ?	No	No	No	No	No	No	No	No	No	No	**Yes**	No	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	-	-	No	-	-	**Yes**

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-12	MDL
9/18/2001	**27**	**10**
10/29/2001	**43**	**10**
1/30/2002	**26**	**10**
4/15/2002	**14**	**10**
9/26/2002	**81**	**10**
10/30/2003	**29**	**5**
4/20/2004	**43**	**5**
10/21/2004	**18**	**5**
4/18/2005	**40**	**5**
10/13/2005	**110**	**5**
4/25/2006	ND	**10**
10/20/2006	**30**	**5**
4/25/2007	ND	**10**
10/31/2007	**46.5**	**5**
4/23/2008	ND	**5**
10/20/2008	**8.2**	**5**

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

	X_i values =
27	-217.3528
43	996.25469
26	-344.8408
14	-6872.546
81	110505.62
29	-64.60188
43	996.25469
18	-3383.445
40	341.16578
110	456310.7
5	-21981.41
30	-27.33891
5	-21981.41
46.5	2453.547
2.5	-28407.52
8.2	-15276.07

X_{bar} =	33.0125
SD =	28.836941
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	29565.438
γ_1=	1.3582504

Since the Coefficient of Skewness of 1.36 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 = 3.2958369	0.0104368
3.7612001	0.3198718
3.2580965	0.0059097
2.6390573	-0.084168
4.3944492	2.2850924
3.3672958	0.0243877
3.7612001	0.3198718
2.8903718	-0.006532
3.6888795	0.2287475
4.7004804	4.276608
1.6094379	-3.162691
3.4011974	0.0339796
1.6094379	-3.162691
3.8394523	0.4427141
0.9162907	-10.09184
2.1041342	-0.921642

X_{bar} = 3.0773011
SD = 1.0545977
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.592622
γ_1 = 0.5566219

Since the Coefficient of Skewness of 0.56 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-12	MDL	Data for Testing
9/18/2001	**27**	10	3.2958369
10/29/2001	**43**	10	3.7612001
1/30/2002	**26**	10	3.2580965
4/15/2002	**14**	10	2.6390573
9/26/2002	**81**	10	4.3944492
10/30/2003	**29**	5	3.3672958
4/20/2004	**43**	5	3.7612001
10/21/2004	**18**	5	2.8903718
4/18/2005	**40**	5	3.6888795
10/13/2005	**110**	5	4.7004804
4/25/2006	ND	10	1.6094379
10/20/2006	**30**	5	3.4011974
4/25/2007	ND	10	1.6094379
10/31/2007	**46.5**	5	3.8394523
4/23/2008	ND	5	0.9162907
10/20/2008	**8.2**	5	2.1041342

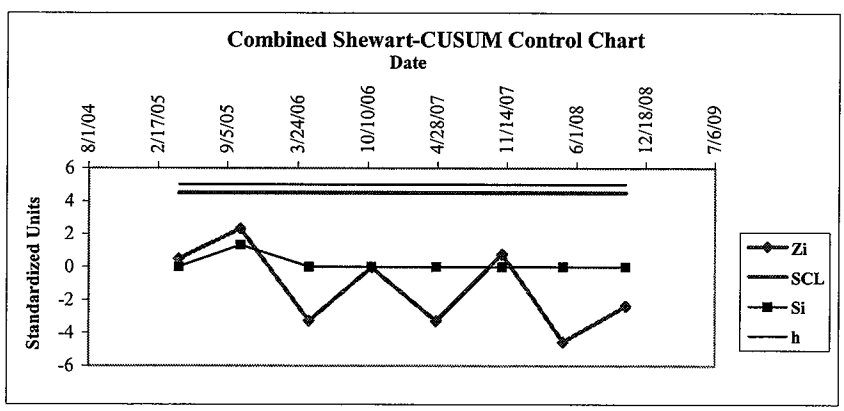
Compute the mean and standard deviation of the historical data:

3.4209385 = x_{mean} (Mean of N1-N8 historical data)
0.5499563 = 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	3.6888795	0.48720414	0	5	4.5
10/13/2005	4.7004804	2.32662463	1.3266246	5	4.5
4/25/2006	1.6094379	-3.293899	0	5	4.5
10/20/2006	3.4011974	-0.0358957	0	5	4.5
4/25/2007	1.6094379	-3.293899	0	5	4.5
10/31/2007	3.8394523	0.76099472	0	5	4.5
4/23/2008	0.9162907	-4.5542667	0	5	4.5
10/20/2008	2.1041342	-2.3943798	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:	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**

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

	X_i values =
740	95054138
300	4392.3499
640	45261477
250	-38011.27
430	3136301.8
380	895198.14
290	259.31852
300	4392.3499
89	-7371961
69	-9886197
123	-4144039
50.2	-12718367
25.9	-17118272

X_{bar} = 283.62308
SD = 223.3001
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 7159947.1
γ_1 = 0.7250805

Since the Coefficient of Skewness of 0.73 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 = 6.6066502	2.4437098
5.7037825	0.0875741
6.4614682	1.7356275
5.5214609	0.0179345
6.0637852	0.5198737
5.9401713	0.315079
5.6698809	0.0690097
5.7037825	0.0875741
4.4886364	-0.458437
4.2341065	-1.078779
4.8121844	-0.089627
3.916015	-2.426037
3.254243	-8.065725

X_{bar} = 5.2597051

SD = 1.0276713
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.526325
γ_1 = 0.5468072

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

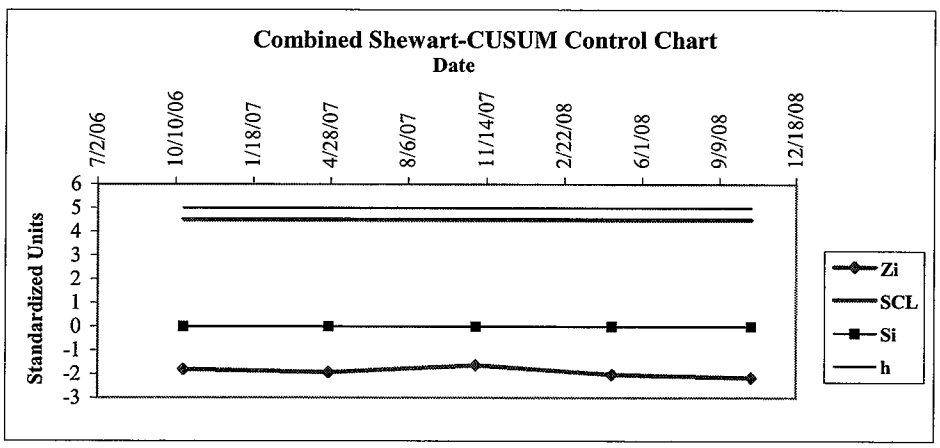
Compute the mean and standard deviation of the historical data:

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

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	15	NS	NS	17	12	8.3	ND	24	6.7	ND	5.6	22	ND	NS	NS	NS	NS	5
06/26/00	15	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	8.8	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	50
04/09/01	76	7.2	NS	9.6	5.3	ND	ND	18	28	ND	ND	6.1	7.3	NS	NS	NS	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	97	59	ND	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	120	ND	ND	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	49	5.5	ND	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	50
04/15/02	74	ND	NS	ND	ND	ND	6	9	44	7.1	8.7	68	6.9	20	13	ND	NS	5
09/26/02	16	6.8	31	400	ND	ND	ND	27	40	ND	6.5	78	5.6	180	27	ND	430	5
04/28/03	ND	ND	ND	90	ND	ND	ND	ND	ND	ND	ND	26	ND	NT	NT	NT	70	5
10/30/03	19	ND	NT	6.9	6.9	ND	ND	ND	48	22	ND	ND	7.7	34	ND	ND	190	5
04/20/04	20	ND	ND	30	7.3	ND	ND	12	5.3	ND	ND	49	12	36	8.4	ND	110	5
10/21/04	12	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	35	ND	23	14	ND	160	5
04/18/05	29	9.6	17	460	ND	ND	5.5	5.4	ND	ND	ND	59	ND	61	12	ND	170	5
10/13/05	29	ND	ND	160	6.8	ND	ND	6.1	ND	ND	ND	46	ND	160	72	ND	100	5
04/25/06	ND	ND	ND	ND	ND	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	NS	NS	ND	ND	ND	ND	ND	24	5
04/25/07	ND	ND	ND	ND	ND	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50
10/31/07	24	ND	8	8.4	13.8	ND	5.8	9.8	ND	ND	ND	20.2	ND	73.1	30.3	ND	36.2	5
04/23/08	7.3	ND	12.9	6.3	10.8	5.7	ND	11.3	5.3	ND	6.2	ND	7.2	17.2	ND	ND	19	5
10/20/08	23	ND	21	11.1	10.7	7.5	ND	14	ND	ND	5.2	ND	6.3	14.8	6.2	ND	8.5	5
N_i	18	17	12	17	16	16	16	16	16	15	15	16	16	16	16	16	13	
sum of rank values (R_i)	3392.0	1572.0	1593.0	3127.5	1922.5	1571.5	1331.0	2284.5	2114.0	1267.5	1448.5	2659.5	1762.0	3269.0	2402.5	1096.0	2965.0	
avg rank value (Rbar)	188.4	92.5	132.8	184.0	120.2	98.2	83.2	142.8	132.1	84.5	96.6	166.2	110.1	204.3	150.2	68.5	228.1	

	Number of each rank value																Rank Value
rank value of NDs =	3	13	6	3	8	12	13	6	8	13	10	6	9	3	6	16	1	68.5
rank value of 5.2s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	137
rank value of 5.3s =	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	139
rank value of 5.4s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	141
rank value of 5.5s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	142.5
rank value of 5.6s =	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	144.5
rank value of 5.7s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	146
rank value of 5.8s =	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	147
rank value of 6.1s =	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	148.5
rank value of 6.2s =	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	151
rank value of 6.3s =	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	153.5
rank value of 6.5s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	155
rank value of 6.7s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	156
rank value of 6.8s =	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	157.5
rank value of 6.9s =	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	160
rank value of 7.1s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	162
rank value of 7.2s =	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	163.5
rank value of 7.3s =	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	166
rank value of 7.5s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	168
rank value of 7.7s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	169
rank value of 8s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	170
rank value of 8.3s =	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	171.5
rank value of 8.4s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	173.5
rank value of 8.5s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	175
rank value of 8.7s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	176
rank value of 8.8s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	177
rank value of 9.2s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	178
rank value of 9.6s =	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	179.5
rank value of 9.7s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	181
rank value of 9.8s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	182
rank value of 10.7s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	183
rank value of 10.8s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	184
rank value of 11.1s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	185
rank value of 11.3s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	186
rank value of 12s =	1	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	0	189
rank value of 12.9s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	192
rank value of 13s =	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	194
rank value of 13.8s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	196
rank value of 14s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	197.5
rank value of 14.8s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	199
rank value of 15s =	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200.5
rank value of 16s =	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	202.5
rank value of 17s =	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	204.5
rank value of 17.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	206
rank value of 18s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	207
rank value of 19s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	208.5
rank value of 20s =	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	210.5
rank value of 20.2s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	212
rank value of 21s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	213
rank value of 22s =	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	215
rank value of 23s =	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	217.5
rank value of 24s =	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	220
rank value of 25s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	222
rank value of 26s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	223

rank value of 27s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	224.5
rank value of 28s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	226
rank value of 29s =	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	227.5
rank value of 30s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	229
rank value of 30.3s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	230
rank value of 31s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	231
rank value of 34s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	232
rank value of 35s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	233
rank value of 36s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	234
rank value of 36.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	235
rank value of 40s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	236
rank value of 44s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	237
rank value of 46s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	238
rank value of 48s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	239
rank value of 49s =	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	240.5
rank value of 59s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	242.5
rank value of 61s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	244
rank value of 68s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	245
rank value of 70s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	246
rank value of 72s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	247
rank value of 73.1s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	248
rank value of 74s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	249
rank value of 76s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250
rank value of 78s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	251
rank value of 88s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	252
rank value of 90s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	253
rank value of 97s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	254
rank value of 100s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	255
rank value of 110s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	256
rank value of 120s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	257
rank value of 160s =	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	259
rank value of 170s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	261
rank value of 180s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	262
rank value of 190s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	263
rank value of 330s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	264
rank value of 400s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	265
rank value of 430s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	266
rank value of 460s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	267
n =	**18**	**17**	**12**	**17**	**16**	**16**	**16**	**16**	**16**	**15**	**15**	**16**	**16**	**16**	**16**	**16**	**13**	

Sum of rank value calculations

205.5	890.5	411	205.5	548	822	890.5	411	548	890.5	685	411	616.5	205.5	411	1096	68.5
0	0	0	0	0	0	0	0	0	0	137	0	0	0	0	0	0
0	0	0	0	139	0	0	0	278	0	0	0	0	0	0	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	142.5	0	0	0	0	0	0	0	142.5	0	0
0	0	0	0	0	0	0	0	0	0	144.5	0	144.5	0	0	0	0
0	0	0	0	0	146	0	0	0	0	0	0	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	0	0	0	148.5	0	0	0	148.5	0	0	0	0	0
0	0	0	0	0	0	151	0	0	0	151	0	0	0	151	0	0
0	0	0	153.5	0	0	0	0	0	0	0	0	153.5	0	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	0
0	157.5	0	0	157.5	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	160	160	0	0	0	0	0	0	0	160	0	0	0	0
0	0	0	0	0	0	0	0	0	162	0	0	0	0	0	0	0
0	163.5	0	0	0	0	0	0	0	0	0	0	163.5	0	0	0	0
166	0	0	0	166	0	0	0	0	0	0	0	166	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	0	0	0	0	0	0	0	0	169	0	0	0	0
0	0	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	171.5	0	0	171.5	0	0	0	0	0	0	0	0	0	0	0
0	0	0	173.5	0	0	0	0	0	0	0	0	0	0	173.5	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175
0	0	0	0	0	0	0	0	0	0	176	0	0	0	0	0	0
0	0	0	177	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	178	0	0	0	0	0	0	0	0	0
0	179.5	0	179.5	0	0	0	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	0	0	0	182	0	0	0	0	0	0	0	0	0
0	0	0	0	183	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	184	0	0	0	0	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	0	0	0	0	0	0	186	0	0	0	0	0	0	0	0	0
189	0	0	0	189	0	0	189	0	0	0	0	189	0	189	0	0
0	0	192	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	194	0	0	0	0	194	0	0	0	0	0	194	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	197.5	0	0	0	0	0	0	197.5	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	199	0	0	0
401	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
405	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	204.5	204.5	0	0	0	0	0	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	0	0	0	0	0	207	0	0	0	0	0	0	0	0	0
208.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	208.5
210.5	0	0	0	0	0	0	0	0	0	0	0	0	210.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	212	0	0	0	0	0
0	0	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	215	0	215	0	0	0	0	0
217.5	0	0	0	0	0	0	0	0	0	0	0	0	217.5	0	0	0

220	0	0	0	0	0	0	220	0	0	0	0	0	0	0	0	220
0	0	0	222	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	223	0	0	0	0	0
0	0	0	0	0	0	0	224.5	0	0	0	0	0	0	224.5	0	0
0	0	0	0	0	0	0	0	226	0	0	0	0	0	0	0	0
455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	229	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	230	0	0
0	0	231	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	232	0	0	0
0	0	0	0	0	0	0	0	0	0	0	233	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	234	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235
0	0	0	0	0	0	0	0	236	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	237	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	238	0	0	0	0	0
0	0	0	0	0	0	0	0	239	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	240.5	0	240.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	242.5	0	0	242.5	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	244	0	0	0
0	0	0	0	0	0	0	0	0	0	0	245	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	246
0	0	0	0	0	0	0	0	0	0	0	0	0	0	247	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	248	0	0	0
249	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	251	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	252
0	0	0	253	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	254	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	255
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	256
0	0	0	0	0	0	0	0	0	0	0	0	0	257	0	0	0
0	0	0	259	0	0	0	0	0	0	0	0	0	259	0	0	259
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	261
0	0	0	0	0	0	0	0	0	0	0	0	0	262	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	263
0	0	0	0	0	264	0	0	0	0	0	0	0	0	0	0	0
0	0	0	265	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	266
0	0	0	267	0	0	0	0	0	0	0	0	0	0	0	0	0
sum of rank values (R_i)	**3392**	**1572**	**1593**	**3127.5**	**1922.5**	**1571.5**	**1331**	**2284.5**	**2114**	**1267.5**	**1448.5**	**2659.5**	**1762**	**3269**	**2402.5**	**1096**	**2965**

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-5A**	**MW-5D**	**MW-8**	**MW-9**	**MW-12**	**MW-13S**	**MW-13D**	**MW-15**
Ri^2/N_i =	914771.3	575368	231000	154351	110723	326184	279312	107104	139877	442059	194040	667898	360750	75076	676248

$N_{i\,bg}$ = 47
N = 267
H = 77.23

Adjust H for ties:

T_i = 3E+06 sum of T1..T9

$H' = H/(1-(T_i/(N^3-N)))$
H' = 88.99
Chi-square = 23.68

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 23.68 which is less than H' =88.99.
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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
Rbar (well x) =	184.0	120.2	98.2	83.2	142.8	132.1	84.5	96.6	166.2	110.1	204.3	150.2	68.5	228.1
avg Rbar (background) =	139.5	139.5	139.5	139.5	139.5	139.5	139.5	139.5	139.5	139.5	139.5	139.5	139.5	139.5
Dx =	44.5	-19.4	-41.3	-56.3	3.3	-7.4	-55.0	-42.9	26.7	-29.4	64.8	10.6	-71.0	88.6
Cx =	50.9	52.1	52.1	52.1	52.1	52.1	53.4	53.4	52.1	52.1	52.1	52.1	52.1	56.4
Statistical Significance ?	No	No	No	No	No	No	No	No	No	No	Yes	No	No	Yes
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	-	-	No	-	-	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-12	MDL
9/18/2001	**97**	**5**
10/29/2001	**120**	**5**
1/30/2002	**49**	**5**
4/15/2002	**20**	**5**
9/26/2002	**180**	**5**
10/30/2003	**34**	**5**
4/20/2004	**36**	**5**
10/21/2004	**23**	**5**
4/18/2005	**61**	**5**
10/13/2005	**160**	**5**
4/25/2006	ND	**50**
10/20/2006	ND	**5**
4/25/2007	ND	**50**
10/31/2007	**73.1**	**5**
4/23/2008	**17.2**	**5**
10/20/2008	**14.8**	**5**

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

	X_i values =
97	56623.104
120	231475.54
49	-884.736
20	-57512.46
180	1789188.3
34	-14886.94
36	-11543.18
23	-45118.02
61	13.824
160	1042590.7
25	-37933.06
2.5	-176558.5
25	-37933.06
73.1	3048.625
17.2	-70957.94
14.8	-84027.67

X_{bar} =	58.6
SD =	53.84136
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	161599.04
γ_1=	1.1406012

Since the Coefficient of Skewness of 1.14 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 = 4.574711	0.8465628
4.7874917	1.5559378
3.8918203	0.018212
2.9957323	-0.253623
5.1929569	3.8274229
3.5263605	-0.001073
3.5835189	-9.24E-05
3.1354942	-0.119989
4.1108739	0.1120865
5.0751738	3.0263039
3.2188758	-0.068843
0.9162907	-19.95611
3.2188758	-0.068843
4.2918284	0.2915755
2.8449094	-0.481544
2.6946272	-0.815027

X_{bar} = 3.6287213
SD = 1.0756299
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.75544
γ_1 = 0.6687358

Since the Coefficient of Skewness of 0.67 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-12	MDL	Data for Testing
9/18/2001	**97**	5	4.574711
10/29/2001	**120**	5	4.7874917
1/30/2002	**49**	5	3.8918203
4/15/2002	**20**	5	2.9957323
9/26/2002	**180**	5	5.1929569
10/30/2003	**34**	5	3.5263605
4/20/2004	**36**	5	3.5835189
10/21/2004	**23**	5	3.1354942
4/18/2005	**61**	5	4.1108739
10/13/2005	**160**	5	5.0751738
4/25/2006	ND	50	3.2188758
10/20/2006	ND	5	0.9162907
4/25/2007	ND	50	3.2188758
10/31/2007	**73.1**	5	4.2918284
4/23/2008	**17.2**	5	2.8449094
10/20/2008	**14.8**	5	2.6946272

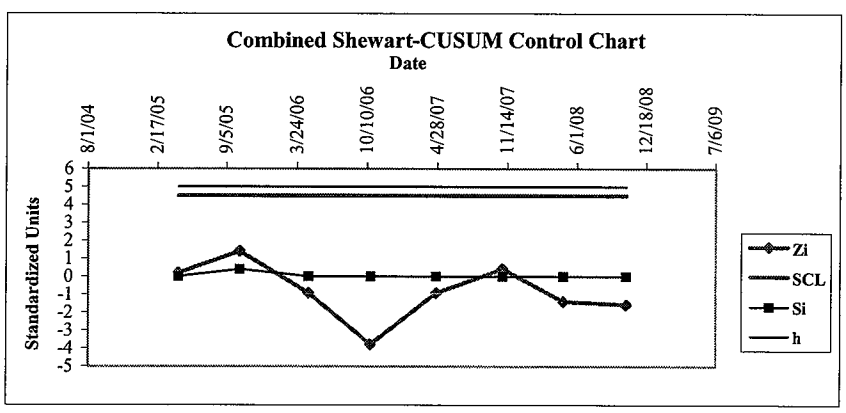
Compute the mean and standard deviation of the historical data:

3.9610107 = x_{mean} (Mean of N1-N8 historical data)
0.8041711 = 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	4.1108739	0.18635727	0	5	4.5
10/13/2005	5.0751738	1.38548011	0.3854801	5	4.5
4/25/2006	3.2188758	-0.9228569	0	5	4.5
10/20/2006	0.9162907	-3.7861594	0	5	4.5
4/25/2007	3.2188758	-0.9228569	0	5	4.5
10/31/2007	4.2918284	0.41137717	0	5	4.5
4/23/2008	2.8449094	-1.3878904	0	5	4.5
10/20/2008	2.6946272	-1.5747688	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:	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**

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

	X_i values =
430	32751461
70	-64258.81
190	510966.85
110	-0.000156
160	124596.59
170	215418.98
100	-1016.241
88	-10726.38
24	-637251.5
25	-615292.9
36.2	-402827.7
19	-754909.5
8.5	-1047343

X_{bar} = 110.05385
SD = 113.92053
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 2312985.9
γ_1= 1.7640469

Since the Coefficient of Skewness of 1.76 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 = 6.0637852	6.4551956
4.2484952	0.0001016
5.2470241	1.1418101
4.7004804	0.1239923
5.0751738	0.6661306
5.1357984	0.8147043
4.6051702	0.0656179
4.4773368	0.0209126
3.1780538	-1.07303
3.2188758	-0.949722
3.5890591	-0.230085
2.944439	-1.987964
2.1400662	-8.764259

X_{bar} = 4.2018275
SD = 1.1145051
N = 13

$1/N\Sigma_i(X_i-X_{bar})^3 =$ -0.285892

$\gamma_1 =$ 0.2328622

Since the Coefficient of Skewness of 0.23 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

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)

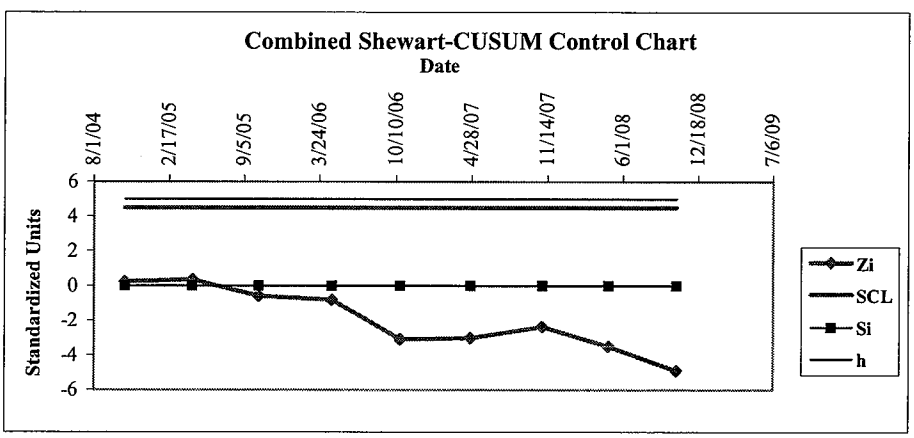
5 = h (constant, upper control limit for the CUSUM scheme)

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

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	20
06/26/00	ND	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	20
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	20
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	20
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	20
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	20
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	20
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	20
04/15/02	ND	ND	NS	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	20
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	ND	20
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	5
10/21/04	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	5
10/13/05	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	20
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	10
04/25/07	**12**	ND	ND	ND	ND	**460**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**18**	10
10/31/07	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	10
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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	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	10	10	-	-	-	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	10	10	-	10	10	10	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	10	10	10	10	10
04/28/03	10	10	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	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	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	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	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	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	10	10	10	10
10/20/06	5	5	5	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	5	5	5	5	5	18
10/31/07	5	5	5	5	5	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	5	5	5	5	5
10/20/08				5	5	5	5	5	5	5	5	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' = 17.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 44$
$T_{n1} = 282$

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).

$k = 14$
$n = 44$
$T_{n1} = 282$
$t[43,.01] = 2.4181$
$c = 0.3182$
$T_{n2} = 70$
$T^*_k = 117.0$

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	**3.7**	NS	NS	ND	ND	ND	**6.9**	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	**2**
06/26/00	ND	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	**2**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	**10**
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	**2**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	**2**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	**2**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	**2**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	**10**
04/15/02	ND	ND	NS	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	**2**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	ND	**2**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	**2**
10/21/04	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	**2**
10/13/05	**2.9**	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	**5**
04/25/07	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	**5**
04/23/08	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	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	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	1	1	-	-	-	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	1	1	-	1	1	1	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	1	1	1	1	1
04/28/03	1	1	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	1	1	1	1	1
04/20/04	1	1	1	1	1	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	1	1	1	1	1
04/18/05	1	1	1	1	1	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	1	1	1	1	1
04/25/06	5	5	5	5	5	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	2.5	2.5	2.5
04/25/07	5	5	5	5	5	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	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	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	2.5	2.5

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 17.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 44$
$T_{nl} = 86.1$

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

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

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).

$k = 14$
$n = 44$
$T_{nl} = 86.1$
$t[43,.01] = 2.4181$
$c = 0.3182$
$T_{n2} = 35$
$T^*_k = 42.9$

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: **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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	**2**	NS	NS	ND	**3**	**2**	**4**	ND	**2**	ND	**3**	**5**	ND	NS	NS	NS	NS	**2**
06/26/00	ND	ND	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	**2**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	**20**
04/09/01	**40**	ND	NS	ND	ND	ND	ND	ND	ND	**30**	ND	ND	ND	NS	NS	NS	NS	**2**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	**2**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	**2**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	NS	**2**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	**20**
04/15/02	**40**	ND	NS	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	**65**	**2**
04/28/03	ND	ND	ND	**1.6**	ND	ND	ND	ND	**1.4**	ND	ND	ND	**1**	NT	NT	NT	**15**	**1**
10/30/03	ND	ND	NT	ND	ND	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	ND	ND	ND	ND	ND	**10**
10/21/04	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	**10**
10/13/05	**22**	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	**10**
04/25/07	ND	ND	ND	ND	ND	**35**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.5**
10/31/07	**11.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**9.5**	ND	**12.3**	**10.5**	ND	ND	**5.5**
04/23/08	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	**5.4**

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

04/24/00	2	-	-	1	3	2	4	1	2	1	3	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	30	1	1	1	-	-	-	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04/15/02	40	1	-	1	1	1	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	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	0.5	0.5	1	-	-	-	15
10/30/03	5	5	-	5	5	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	5	5	5	5	5
10/21/04	5	5	5	5	5	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	5	5	5	5	5
10/13/05	22	5	5	5	5	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	5	5	5	5	5
10/20/06	5	5	5	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	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	2.75	2.75	9.5	2.75	12.3	10.5	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	2.75	2.75	2.75	2.75	2.75
10/20/08				2.7	2.7	2.7	2.7	6.1	2.7	2.7	2.7	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' = 17.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 44$
$T_{n1} = 243.1$

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).

$k = 14$
$n = 44$
$T_{n1} = 243.1$
$t[43,.01] = 2.4181$
$c = 0.3182$
$T_{n2} = 41.2$
$T^*_k = 102.7$

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 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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	17	NS	NS	19	32	21	ND	29	8.9	ND	ND	78	ND	NS	NS	NS	NS	5
06/26/00	40	6.3	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	5
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	40
04/09/01	250	1.4	NS	13	19	9.3	ND	24	41	ND	ND	230	8	NS	NS	NS	NS	5
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	160	170	6.4	NS	5
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	250	9.2	ND	NS	5
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	83	12	ND	NS	5
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	200	NS	58	NS	40
04/15/02	240	ND	NS	ND	ND	11	21	14	69	17	12	260	ND	37	37	ND	NS	5
09/26/02	58	16	44	640	ND	ND	ND	42	50	8.7	17	310	8.8	530	130	ND	1000	5
04/28/03	89	ND	9.6	170	6.8	6.8	ND	ND	37	ND	ND	230	ND	NT	NT	NT	130	5
10/30/03	54	ND	NT	6.6	16	ND	ND	ND	92	82	5.9	14	ND	82	13	ND	200	5
04/20/04	55	ND	ND	45	25	ND	ND	13	5.1	ND	5.6	240	ND	140	33	ND	88	5
10/21/04	41	ND	ND	18	ND	ND	ND	ND	ND	ND	10	160	ND	46	59	ND	210	5
04/18/05	85	ND	ND	680	5.4	ND	ND	ND	ND	ND	ND	240	ND	100	44	ND	110	5
10/13/05	82	ND	ND	210	8.9	ND	ND	ND	ND	ND	5.7	170	ND	330	310	ND	82	5
04/25/06	110	ND	ND	ND	ND	ND	ND	ND	ND	160	ND	120	ND	ND	54	ND	85	40
10/20/06	79	ND	ND	28	ND	ND	ND	ND	23	NS	NS	ND	ND	120	100	ND	30	5
04/25/07	43	ND	ND	ND	ND	300	ND	ND	ND	33	ND	ND	ND	ND	ND	ND	26	25
10/31/07	89	ND	8.8	14.7	20	ND	ND	ND	8.6	ND	ND	103	ND	176	146	ND	48.2	5
04/23/08	26.1	ND	11.4	9.7	10.1	ND	ND	5.1	9.7	ND	8.6	10	ND	7.2	6.1	ND	23.1	5
10/20/08	79	ND	15.1	15.8	ND	ND	ND	ND	5.4	ND	ND	ND	ND	31.6	30.2	ND	14.8	5
N_i	18	17	12	16	16	16	16	16	16	15	15	16	16	17	16	17	13	
sum of rank values (R_i)	3890.0	1313.5	1267.0	2750.0	1913.5	1579.0	1124.5	1656.0	2246.0	1605.0	1529.5	3225.0	1168.5	3541.5	3095.5	1294.5	2847.0	
avg rank value (Rbar)	216.1	77.3	105.6	171.9	119.6	98.7	70.3	103.5	140.4	107.0	102.0	201.6	73.0	208.3	193.5	76.1	219.0	

	Number of each rank value																	Rank Value
rank value of NDs =	0	14	7	3	7	11	15	10	5	10	8	3	14	2	1	15	0	63
rank value of 1.4s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126
rank value of 5.1s =	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	127.5
rank value of 5.4s =	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	129.5
rank value of 5.6s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	131
rank value of 5.7s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	132
rank value of 5.9s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	133
rank value of 6.1s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	134
rank value of 6.3s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	135
rank value of 6.4s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	136
rank value of 6.6s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	137
rank value of 6.8s =	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	138.5
rank value of 7.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	140
rank value of 8s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	141
rank value of 8.6s =	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	142.5
rank value of 8.7s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	144
rank value of 8.8s =	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	145.5
rank value of 8.9s =	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	147.5
rank value of 9.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	149
rank value of 9.3s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	150
rank value of 9.6s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	151
rank value of 9.7s =	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	152.5
rank value of 10s =	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	154.5
rank value of 10.1s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	156
rank value of 11s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	157
rank value of 11.4s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	158
rank value of 12s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	159.5
rank value of 13s =	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	162
rank value of 14s =	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	164.5
rank value of 14.7s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	166
rank value of 14.8s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	167
rank value of 15.1s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	168
rank value of 15.8s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	169
rank value of 16s =	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	170.5
rank value of 17s =	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	173
rank value of 18s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	175
rank value of 19s =	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	176.5
rank value of 20s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	178
rank value of 21s =	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	179.5
rank value of 23s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	181
rank value of 23.1s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	182
rank value of 24s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	183
rank value of 25s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	184
rank value of 26s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	185
rank value of 26.1s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	186
rank value of 28s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	187
rank value of 29s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	188
rank value of 30s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	189
rank value of 30.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	190
rank value of 31.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	191
rank value of 32s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	192
rank value of 33s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	193.5
rank value of 37s =	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	196
rank value of 40s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	198
rank value of 41s =	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	199.5
rank value of 42s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	201
rank value of 43s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	202
rank value of 44s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	203.5
rank value of 45s =	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	205.5

rank value of 46s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	207
rank value of 48.2s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	208
rank value of 50s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	209
rank value of 54s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	210.5
rank value of 55s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212
rank value of 58s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	213.5
rank value of 59s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	215
rank value of 69s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	216
rank value of 78s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	217
rank value of 79s =	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	218.5
rank value of 82s =	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	221.5
rank value of 83s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	224
rank value of 85s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	225.5
rank value of 88s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	227
rank value of 89s =	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228.5
rank value of 92s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	230
rank value of 100s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	231.5
rank value of 103s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	233
rank value of 110s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	234.5
rank value of 120s =	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	236.5
rank value of 130s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	238.5
rank value of 140s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	240
rank value of 146s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	241
rank value of 160s =	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	243
rank value of 170s =	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	246
rank value of 176s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	248
rank value of 200s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	249.5
rank value of 210s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	251.5
rank value of 230s =	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	253.5
rank value of 240s =	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	256
rank value of 250s =	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	258.5
rank value of 260s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	260
rank value of 300s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	261
rank value of 310s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	262.5
rank value of 330s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	264
rank value of 530s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	265
rank value of 640s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	266
rank value of 680s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	267
rank value of 1000s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	268
n =	18	17	12	16	16	16	16	16	16	15	15	16	16	17	16	17	13	

Sum of rank value calculations

0	882	441	189	441	693	945	630	315	630	504	189	882	126	63	945	0
0	126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	127.5	127.5	0	0	0	0	0	0	0	0
0	0	0	0	129.5	0	0	0	129.5	0	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	0	0	0	0	0	0	0	132	0	0	0	0	0	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	0	0	0	0	0	0	134	0	0
0	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	136	0
0	0	0	137	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	138.5	138.5	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	140	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	141	0	0	0	0
0	0	0	0	0	0	0	0	142.5	0	142.5	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	144	0	0	0	0	0	0	0
0	0	145.5	0	0	0	0	0	0	0	0	0	145.5	0	0	0	0
0	0	0	0	147.5	0	0	0	147.5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	149	0	0
0	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	152.5	0	0	0	0	152.5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	154.5	154.5	0	0	0	0	0
0	0	0	0	156	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	157	0	0	0	0	0	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	0	0	0	0	0	0	159.5	0	0	0	159.5	0	0
0	0	0	162	0	0	0	162	0	0	0	0	0	0	162	0	0
0	0	0	0	0	0	0	164.5	0	0	0	164.5	0	0	0	0	0
0	0	0	166	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	167
0	0	168	0	0	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	0
0	170.5	0	0	170.5	0	0	0	0	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	173	173	0	0	0	0	0	0
0	0	0	175	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	176.5	176.5	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	178	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	179.5	179.5	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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	182
0	0	0	0	0	0	0	183	0	0	0	0	0	0	0	0	0
0	0	0	0	184	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	185
186	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	187	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	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	0	0	0	0	0	189
0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	191	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	0	0	0	193.5	0	0	0	0	193.5	0	0
0	0	0	0	0	0	0	0	196	0	0	0	0	196	196	0	0
198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199.5	0	0	0	0	0	0	0	199.5	0	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	0	0	0	0	0	0
0	0	203.5	0	0	0	0	0	0	0	0	0	0	0	203.5	0	0
205.5	0	0	205.5	0	0	0	0	0	0	0	0	0	0	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	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
210.5	0	0	0	0	0	0	0	0	0	0	0	0	0	210.5	0	0
212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
213.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	213.5	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	215	0	0
0	0	0	0	0	0	0	0	216	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	217	0	0	0	0	0
437	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
221.5	0	0	0	0	0	0	0	0	221.5	0	0	0	221.5	0	0	221.5
0	0	0	0	0	0	0	0	0	0	0	0	0	224	0	0	0
225.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225.5
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	227
457	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	230	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	231.5	231.5	0	0
0	0	0	0	0	0	0	0	0	0	0	233	0	0	0	0	0
234.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	234.5
0	0	0	0	0	0	0	0	0	0	0	236.5	0	236.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	238.5	0	238.5
0	0	0	0	0	0	0	0	0	0	0	0	0	240	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	241	0	0
0	0	0	0	0	0	0	0	0	243	0	243	0	243	0	0	0
0	0	0	246	0	0	0	0	0	0	0	246	0	0	246	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	248	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	249.5	0	0	249.5
0	0	0	251.5	0	0	0	0	0	0	0	0	0	0	0	0	251.5
0	0	0	0	0	0	0	0	0	0	0	507	0	0	0	0	0
256	0	0	0	0	0	0	0	0	0	0	512	0	0	0	0	0
258.5	0	0	0	0	0	0	0	0	0	0	0	0	258.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	260	0	0	0	0	0
0	0	0	0	0	261	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	262.5	0	0	262.5	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	264	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	265	0	0	0
0	0	0	266	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	267	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	268
sum of rank values (R_i)	**3890**	**1313.5**	**1267**	**2750**	**1913.5**	**1579**	**1124.5**	**1656**	**2246**	**1605**	**1529.5**	**3225**	**1168.5**	**3541.5**	**3095.5**	**1294.5**	**2847**

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-5A**	**MW-5D**	**MW-8**	**MW-9**	**MW-12**	**MW-13S**	**MW-13D**	**MW-15**
Ri^2/N_i =	890795.1	472656	228843	155828	79031	171396	315282	171735	155958	650039	85337	737778	598883	98572	623493

$N_{i\,bg}$ = 47
N = 268
H = 97.78

Adjust H for ties:

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

$H' = H/(1-(T_i/(N^3-N)))$
H' = 108.83
Chi-square = 23.68

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 23.68 which is less than H' =108.83.
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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
Rbar (well x) =	171.9	119.6	98.7	70.3	103.5	140.4	107.0	102.0	201.6	73.0	208.3	193.5	76.1	219.0
avg Rbar (background) =	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7
Dx =	34.2	-18.1	-39.0	-67.4	-34.2	2.7	-30.7	-35.7	63.9	-64.6	70.7	55.8	-61.5	81.3
Cx =	52.3	52.3	52.3	52.3	52.3	52.3	53.6	53.6	52.3	52.3	51.1	52.3	51.1	56.6
Statistical Significance ?	No	No	No	No	No	No	No	No	**Yes**	No	**Yes**	**Yes**	No	**Yes**
SSI, is current event above MCL?	-	-	-	-	-	-	-	-	NE	-	NE	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**

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

	X_i values =
78	-199240.7
230	819861.6
260	1887945.8
310	5231211.2
230	819861.6
14	-1834048
240	1111733.4
160	13133.816
240	1111733.4
170	37911.892
120	-4415.989
2.5	-2401057
12.5	-1902303
103	-37280.62
10	-2019787
2.5	-2401057

X_{bar} =	136.40625
SD =	107.40922
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	14637.641
γ_1=	0.0130134

Since the Coefficient of Skewness of 0.01 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	0.0086372
5.4380793	2.1294881
5.5606816	2.79814
5.7365723	3.9821649
5.4380793	2.1294881
2.6390573	-3.45992
5.4806389	2.34789
5.0751738	0.7879667
5.4806389	2.34789
5.1357984	0.9535321
4.7874917	0.2572081
0.9162907	-33.86264
2.5257286	-4.297399
4.634729	0.1128151
2.3025851	-6.32084
0.9162907	-33.86264

X_{bar} = 4.151534
SD = 1.6956105
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -3.996764
γ_1 = 0.9031779

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

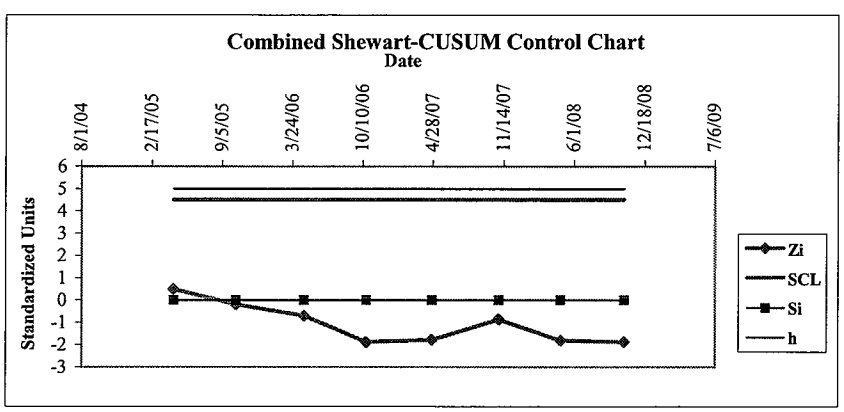
Compute the mean and standard deviation of the historical data:

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

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-12	MDL
9/18/2001	**160**	**5**
10/29/2001	**250**	**5**
1/30/2002	**83**	**5**
4/15/2002	**37**	**5**
9/26/2002	**530**	**5**
10/30/2003	**82**	**5**
4/20/2004	**140**	**5**
10/21/2004	**46**	**5**
4/18/2005	**100**	**5**
10/13/2005	**330**	**5**
4/25/2006	ND	**40**
10/20/2006	**120**	**5**
4/25/2007	ND	**25**
10/31/2007	**176**	**5**
4/23/2008	**7.2**	**5**
10/20/2008	**31.6**	**5**

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

	X_i values =
160	20054.368
250	1608553.1
83	-123738.6
37	-880078.6
530	62650596
82	-131338.6
140	368.40906
46	-654678.6
100	-35388.51
330	7665036.9
20	-1436442
120	-2112.55
12.5	-1742350
176	80446.735
7.2	-1982865
31.6	-1037394

X_{bar} =	132.83125
SD =	138.8703
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	3999916.9
γ_1=	1.645379

Since the Coefficient of Skewness of 1.65 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 =	X_i values =
5.0751738	0.4027208
5.5214609	1.6629968
4.4188406	0.0005542
3.6109179	-0.382314
6.272877	7.2582966
4.4067192	0.0003433
4.9416424	0.2213812
3.8286414	-0.131142
4.6051702	0.0193502
5.7990927	3.1274572
2.9957323	-2.411324
4.7874917	0.0916064
2.5257286	-5.9393
5.170484	0.5796417
1.974081	-13.18808
3.4531571	-0.689738

X_{bar} = 4.3367007
SD = 1.1947044
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.586097
γ_1 = 0.3786439

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-12	MDL	Data for Testing
9/18/2001	**160**	5	5.0751738
10/29/2001	**250**	5	5.5214609
1/30/2002	**83**	5	4.4188406
4/15/2002	**37**	5	3.6109179
9/26/2002	**530**	5	6.272877
10/30/2003	**82**	5	4.4067192
4/20/2004	**140**	5	4.9416424
10/21/2004	**46**	5	3.8286414
4/18/2005	**100**	5	4.6051702
10/13/2005	**330**	5	5.7990927
4/25/2006	ND	40	2.9957323
10/20/2006	**120**	5	4.7874917
4/25/2007	ND	25	2.5257286
10/31/2007	**176**	5	5.170484
4/23/2008	**7.2**	5	1.974081
10/20/2008	**31.6**	5	3.4531571

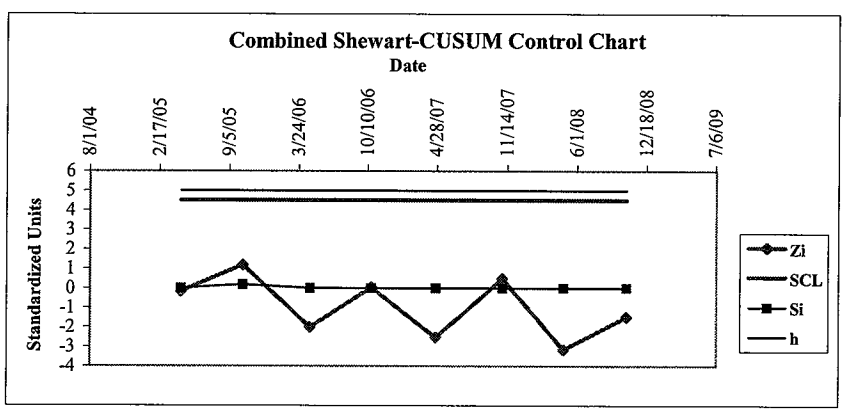
Compute the mean and standard deviation of the historical data:

4.7595342 = x_{mean} (Mean of N1-N8 historical data)
0.8807433 = 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	4.6051702	-0.1752656	0	5	4.5
10/13/2005	5.7990927	1.18031944	0.1803194	5	4.5
4/25/2006	2.9957323	-2.0026287	0	5	4.5
10/20/2006	4.7874917	0.03174316	0	5	4.5
4/25/2007	2.5257286	-2.536273	0	5	4.5
10/31/2007	5.170484	0.46659431	0	5	4.5
4/23/2008	1.974081	-3.1626162	0	5	4.5
10/20/2008	3.4531571	-1.4832664	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-13S	MDL
9/18/2001	**170**	**5**
10/29/2001	**9.2**	**5**
1/30/2002	**12**	**5**
4/15/2002	**37**	**5**
9/26/2002	**130**	**5**
10/30/2003	**13**	**5**
4/20/2004	**33**	**5**
10/21/2004	**59**	**5**
4/18/2005	**44**	**5**
10/13/2005	**310**	**5**
4/25/2006	**54**	**40**
10/20/2006	**100**	**5**
4/25/2007	ND	**25**
10/31/2007	**146**	**5**
4/23/2008	**6.1**	**5**
10/20/2008	**30.2**	**5**

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

	X_i values =
170	916205.92
9.2	-258170.6
12	-225588.5
37	-46171.69
130	186414.05
13	-214652.8
33	-63401.87
59	-2671.154
44	-24074.98
310	13333127
54	-6724.514
100	19957.643
12.5	-220075.4
146	391018.8
6.1	-297743.1
30.2	-77717.82

X_{bar} =	72.875
SD =	81.868956
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	838108.22
γ_1=	1.6826176

Since the Coefficient of Skewness of 1.68 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 =	X_i values =
5.1357984	2.9223047
2.2192035	-3.287379
2.4849066	-1.82122
3.6109179	-0.000863
4.8675345	1.566659
2.5649494	-1.486068
3.4965076	-0.009208
4.0775374	0.0512421
3.7841896	0.000476
5.7365723	8.371161
3.988984	0.0226353
4.6051702	0.7267221
2.5257286	-1.64462
4.9836066	2.0848784
1.8082888	-6.835416
3.4078419	-0.026535

X_{bar} = 3.7061086
SD = 1.1639454
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = 0.0396732
γ_1 = 0.0277167

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 log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-13S	MDL	Data for Testing
9/18/2001	**170**	5	5.1357984
10/29/2001	**9.2**	5	2.2192035
1/30/2002	**12**	5	2.4849066
4/15/2002	**37**	5	3.6109179
9/26/2002	**130**	5	4.8675345
10/30/2003	**13**	5	2.5649494
4/20/2004	**33**	5	3.4965076
10/21/2004	**59**	5	4.0775374
4/18/2005	**44**	5	3.7841896
10/13/2005	**310**	5	5.7365723
4/25/2006	**54**	40	3.988984
10/20/2006	**100**	5	4.6051702
4/25/2007	ND	25	2.5257286
10/31/2007	**146**	5	4.9836066
4/23/2008	**6.1**	5	1.8082888
10/20/2008	**30.2**	5	3.4078419

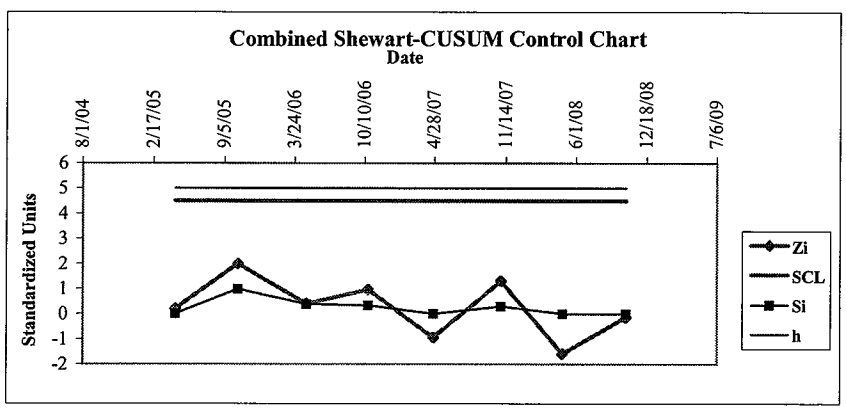
Compute the mean and standard deviation of the historical data:

3.5571694 = x_{mean} (Mean of N1-N8 historical data)
1.0961542 = 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	3.7841896	0.20710609	0	5	4.5
10/13/2005	5.7365723	1.9882265	0.9882265	5	4.5
4/25/2006	3.988984	0.39393602	0.3821625	5	4.5
10/20/2006	4.6051702	0.95607055	0.3382331	5	4.5
4/25/2007	2.5257286	-0.9409632	0	5	4.5
10/31/2007	4.9836066	1.30131068	0.3013107	5	4.5
4/23/2008	1.8082888	-1.5954695	0	5	4.5
10/20/2008	3.4078419	-0.1362285	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**

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

	X_i values =
1000	598077289
130	-20727.15
200	76932.477
88	-335256.7
210	144957.7
110	-106963.7
82	-429842.9
85	-380593.1
30	-2071172
26	-2272335
48.2	-1304649
23.1	-2426049
14.8	-2903962

X_{bar} = 157.46923
SD = 260.94214
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 45080587
γ_1 = 2.8608826

Since the Coefficient of Skewness of 2.86 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.

	X_i values =
ln = 6.9077553	16.333233
4.8675345	0.1227596
5.2983174	0.7986047
4.4773368	0.0012181
5.3471075	0.9313381
4.7004804	0.0359176
4.4067192	4.736E-05
4.4426513	0.000375
3.4011974	-0.910818
3.2580965	-1.376681
3.875359	-0.12142
3.1398326	-1.864078
2.6946272	-4.707106

X_{bar} = 4.3705396

SD =	1.1317899
N =	13
$1/N\Sigma_i(X_i-X_{bar})^3$ =	0.71103
γ_1=	0.5530109

Since the Coefficient of Skewness of 0.55 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

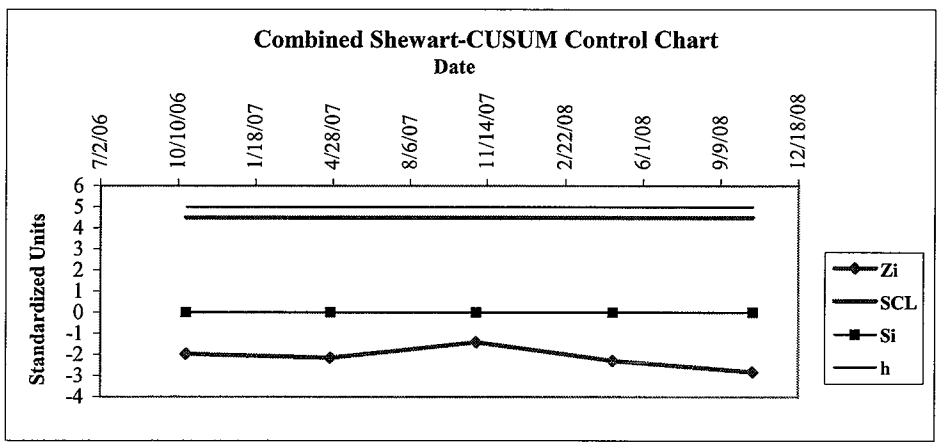
Compute the mean and standard deviation of the historical data:

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

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	150	NS	NS	35	48	36	12	43	28	12	14	68	ND	NS	NS	NS	NS	10
06/26/00	37	12	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	10
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	50
04/09/01	230	130	NS	12	24	18	17	33	75	ND	ND	200	3	NS	NS	NS	NS	10
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	130	220	ND	NS	10
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	200	17	ND	NS	10
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	62	16	11	NS	10
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	180	NS	58	NS	50
04/15/02	230	16	NS	ND	ND	13	33	38	120	37	31	230	52	51	79	ND	NS	10
09/26/02	57	120	110	580	ND	20	ND	56	250	17	20	280	43	510	110	15	4800	10
04/28/03	86	14	31	160	16	ND	ND	ND	81	ND	ND	190	240	NT	NT	NT	800	10
10/30/03	55	22	NT	17	26	10	ND	ND	140	100	12	26	64	61	24	13	1800	10
04/20/04	55	10	ND	44	30	11	14	19	23	ND	ND	220	160	120	36	15	770	10
10/21/04	29	ND	ND	17	ND	14	ND	12	15	11	11	70	55	27	31	15	1200	10
04/18/05	83	ND	ND	780	ND	30	13	10	ND	ND	13	240	200	96	38	14	1200	10
10/13/05	92	13	12	230	19	25	ND	ND	14	23	36	170	81	330	280	11	800	10
04/25/06	130	ND	88	ND	ND	ND	ND	ND	110	180	ND	120	120	ND	56	ND	780	50
10/20/06	74	ND	20	37	ND	ND	ND	ND	55	NS	NS	ND	82	110	75	ND	200	10
04/25/07	55	21	30	30	22	830	22	15	10	39	21	12	74	37	20	12	200	10
10/31/07	86	ND	66.2	14	37.4	33.3	12	ND	11.6	ND	14.2	91.1	66.9	169	148	ND	336	10
04/23/08	27.3	ND	50.3	12.2	24.4	36.9	ND	10.3	17.5	27.9	22.2	38.8	123	32.7	12.1	ND	138	10
10/20/08	66.5	19.9	59.2	15.3	10.6	29.1	ND	12.4	ND	ND	ND	17.4	86.2	24.6	22.4	ND	71.5	10
N_i	18	17	12	16	16	16	16	16	16	15	15	16	16	17	16	17	13	
sum of rank values (R_i)	3533.0	1613.5	1563.0	2275.0	1483.0	1802.5	996.5	1360.5	2277.5	1490.0	1256.5	3059.0	2983.5	3268.5	2685.0	1125.5	3273.5	
avg rank value (Rbar)	196.3	94.9	130.3	142.2	92.7	112.7	62.3	85.0	142.3	99.3	83.8	191.2	186.5	192.3	167.8	66.2	251.8	

	Number of each rank value																	Rank Value
rank value of NDs =	0	6	3	2	6	3	9	6	2	6	5	1	1	1	0	8	0	30
rank value of 3s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	60
rank value of 10s =	0	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	62.5
rank value of 10.3s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	65
rank value of 10.6s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	66
rank value of 11s =	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	2	0	69
rank value of 11.6s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	72
rank value of 12s =	0	1	1	1	0	0	2	1	0	1	1	1	0	0	0	1	0	77.5
rank value of 12.1s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	83
rank value of 12.2s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	84
rank value of 12.4s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	85
rank value of 13s =	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	1	0	88
rank value of 14s =	0	1	0	1	0	1	1	0	1	0	1	0	0	0	0	1	0	94
rank value of 14.2s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	98
rank value of 15s =	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3	0	101
rank value of 15.3s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	104
rank value of 16s =	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	106
rank value of 17s =	0	0	0	2	0	0	1	0	0	1	0	0	0	0	1	0	0	110
rank value of 17.4s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	113
rank value of 17.5s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	114
rank value of 18s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	115
rank value of 19s =	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	116.5
rank value of 19.9s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118
rank value of 20s =	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	120.5
rank value of 21s =	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	123.5
rank value of 22s =	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	126
rank value of 22.2s =	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	128
rank value of 22.4s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	129
rank value of 23s =	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	130.5
rank value of 24s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	132.5
rank value of 24.4s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	134
rank value of 24.6s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	135
rank value of 25s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	136
rank value of 26s =	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	137.5
rank value of 27s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	139
rank value of 27.3s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140
rank value of 27.9s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	141
rank value of 28s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	142
rank value of 29s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	143
rank value of 29.1s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	144
rank value of 30s =	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	146.5
rank value of 31s =	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	150
rank value of 32.7s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	152
rank value of 33s =	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	153.5
rank value of 33.3s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	155
rank value of 35s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	156
rank value of 36s =	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	158
rank value of 36.9s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	160
rank value of 37s =	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	162.5
rank value of 37.4s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	165
rank value of 38s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	166.5
rank value of 38.8s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	168
rank value of 39s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	169
rank value of 43s =	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	170.5
rank value of 44s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	172
rank value of 48s =	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	173
rank value of 50.3s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174
rank value of 51s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	175
rank value of 52s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	176
rank value of 55s =	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	179
rank value of 56s =	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	182.5
rank value of 57s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	184
rank value of 58s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	185
rank value of 59.2s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	186
rank value of 61s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	187
rank value of 62s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	188
rank value of 64s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	189
rank value of 65s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190
rank value of 66s =	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	191
rank value of 66.2s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	192
rank value of 66.5s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	193

rank value of 66.9s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	194
rank value of 68s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	195
rank value of 70s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	196
rank value of 71.5s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	197
rank value of 74s =	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	198.5
rank value of 75s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	200.5
rank value of 79s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	202
rank value of 81s =	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	203.5
rank value of 82s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	205
rank value of 83s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	206
rank value of 86s =	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	207.5
rank value of 86.2s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	209
rank value of 88s =	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	210
rank value of 91.1s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	211
rank value of 92s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212
rank value of 96s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	213
rank value of 100s =	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	214
rank value of 110s =	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	216.5
rank value of 120s =	0	1	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	221
rank value of 123s =	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	224
rank value of 130s =	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	226
rank value of 138s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	228
rank value of 140s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	229
rank value of 148s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	230
rank value of 150s =	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	231
rank value of 160s =	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	232.5
rank value of 169s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	234
rank value of 170s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	235
rank value of 180s =	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	236.5
rank value of 190s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	238
rank value of 200s =	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	2	241
rank value of 220s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	244.5
rank value of 230s =	2	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	247.5
rank value of 240s =	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	250.5
rank value of 250s =	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	252
rank value of 280s =	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	253.5
rank value of 330s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	255
rank value of 336s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	256
rank value of 510s =	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	257
rank value of 580s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	258
rank value of 770s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	259
rank value of 780s =	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	260.5
rank value of 800s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	262.5
rank value of 830s =	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	264
rank value of 1200s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	265.5
rank value of 1800s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	267
rank value of 4800s =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	268
n =	18	17	12	16	16	16	16	16	16	15	15	16	16	17	16	17	13	

Sum of rank value calculations

0	180	90	60	180	90	270	180	60	180	150	30	30	30	0	240	0
0	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0
0	62.5	0	0	0	62.5	0	62.5	62.5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	65	0	0	0	0	0	0	0	0	0
0	0	0	0	66	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	69	0	0	0	69	69	0	0	0	0	138	0
0	0	0	0	0	0	0	0	72	0	0	0	0	0	0	0	0
0	77.5	77.5	77.5	0	0	155	77.5	0	77.5	77.5	77.5	0	0	0	77.5	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	0	0
0	0	0	84	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	85	0	0	0	0	0	0	0	0	0
0	88	0	0	0	88	88	0	0	0	88	0	0	0	0	88	0
0	94	0	94	0	94	94	0	94	0	94	0	0	0	0	94	0
0	0	0	0	0	0	0	0	0	0	98	0	0	0	0	0	0
0	0	0	0	0	0	0	101	101	0	0	0	0	0	0	303	0
0	0	0	104	0	0	0	0	0	0	0	0	0	0	0	0	0
0	106	0	0	106	0	0	0	0	0	0	0	0	0	106	0	0
0	0	0	220	0	0	110	0	0	110	0	0	0	0	110	0	0
0	0	0	0	0	0	0	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	0	115	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	116.5	0	0	116.5	0	0	0	0	0	0	0	0	0
0	118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	120.5	0	0	120.5	0	0	0	0	120.5	0	0	0	120.5	0	0
0	123.5	0	0	0	0	0	0	0	0	123.5	0	0	0	0	0	0
0	126	0	0	126	0	126	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	128	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	129	0	0
0	0	0	0	0	0	0	0	130.5	130.5	0	0	0	0	0	0	0
0	0	0	0	132.5	0	0	0	0	0	0	0	0	0	132.5	0	0
0	0	0	0	134	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	135	0	0	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	0	0	0	0	0	137.5	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	139	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	142	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	144	0	0	0	0	0	0	0	0	0	0	0
0	0	146.5	146.5	146.5	146.5	0	0	0	0	0	0	0	0	0	0	0
0	0	150	0	0	0	0	0	0	0	150	0	0	0	150	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	153.5	153.5	0	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	0	0	0	0	0	0
0	0	0	0	0	158	0	0	0	0	158	0	0	0	158	0	0
0	0	0	0	0	160	0	0	0	0	0	0	0	0	0	0	0
162.5	0	0	162.5	0	0	0	0	0	162.5	0	0	0	162.5	0	0	0
0	0	0	0	165	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	168	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	0	0	170.5	0	0	0	0	170.5	0	0	0	0
0	0	0	172	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	173	0	0	0	0	0	0	0	0	0	0	0	0
0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	176	0	0	0	0

537	0	0	0	0	0	0	0	179	0	0	0	179	0	0	0	0
0	0	0	0	0	0	0	182.5	0	0	0	0	0	0	182.5	0	0
184	0	0	0	0	0	0	0	0	0	0	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	186	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	187	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	188	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	189	0	0	0	0
190	0	0	0	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	0	0	0	0	0
0	0	192	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	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	194	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	195	0	0	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	0	0	197
198.5	0	0	0	0	0	0	0	0	0	0	0	198.5	0	0	0	0
0	0	0	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	0	0	0	202	0	0
0	0	0	0	0	0	0	0	203.5	0	0	0	203.5	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	205	0	0	0	0
206	0	0	0	0	0	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	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	209	0	0	0	0
0	0	210	0	0	0	0	0	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
212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	213	0	0	0
0	0	0	0	0	0	0	0	0	214	0	0	0	0	0	0	0
0	0	216.5	0	0	0	0	0	216.5	0	0	0	0	216.5	216.5	0	0
0	221	0	0	0	0	0	0	221	0	0	221	221	221	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	224	0	0	0	0
226	226	0	0	0	0	0	0	0	0	0	0	0	226	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228
0	0	0	0	0	0	0	0	229	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	230	0	0
231	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	232.5	0	0	0	0	0	0	0	0	232.5	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	234	0	0	0
0	0	0	0	0	0	0	0	0	0	0	235	0	0	0	0	0
0	0	0	0	0	0	0	0	0	236.5	0	0	0	236.5	0	0	0
0	0	0	0	0	0	0	0	0	0	0	238	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	241	241	241	0	0	482
0	0	0	0	0	0	0	0	0	0	0	244.5	0	0	244.5	0	0
495	0	0	247.5	0	0	0	0	0	0	0	247.5	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	250.5	250.5	0	0	0	0
0	0	0	0	0	0	0	0	252	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	253.5	0	0	253.5	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	255	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	256
0	0	0	0	0	0	0	0	0	0	0	0	0	257	0	0	0
0	0	0	258	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259
0	0	0	260.5	0	0	0	0	0	0	0	0	0	0	0	0	260.5
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	525
0	0	0	0	0	264	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	531
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	267
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	268
sum of rank values (R_i) 3533	1613.5	1563	2275	1483	1802.5	996.5	1360.5	2277.5	1490	1256.5	3059	2983.5	3268.5	2685	1125.5	3273.5

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
R_i^2/N_i =	957816.8	323477	137456	203063	62063	115685	324188	148007	105253	584843	556330	628417	450577	74515	824292

$N_{i\,bg}$ = 47
N = 268
H = 107.83

Adjust H for ties:

T_i = 208092 sum of T1..T7

$H' = H/(1-(T_i/(N^3-N)))$
H' = 109.01
Chi-square = 23.68

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 23.68 which is less than H' =109.01.
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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15
Rbar (well x) =	142.2	92.7	112.7	62.3	85.0	142.3	99.3	83.8	191.2	186.5	192.3	167.8	66.2	251.8
avg Rbar (background) =	142.8	142.8	142.8	142.8	142.8	142.8	142.8	142.8	142.8	142.8	142.8	142.8	142.8	142.8
Dx =	-0.6	-50.1	-30.1	-80.5	-57.7	-0.4	-43.4	-59.0	48.4	43.7	49.5	25.1	-76.5	109.1
Cx =	52.3	52.3	52.3	52.3	52.3	52.3	53.6	53.6	52.3	52.3	51.1	52.3	51.1	56.6
Statistical Significance ?	No	No	No	No	No	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-8	MDL
4/24/2000	**68**	**10**
4/9/2001	**200**	**10**
4/15/2002	**230**	**10**
9/26/2002	**280**	**10**
4/28/2003	**190**	**10**
10/30/2003	**26**	**10**
4/20/2004	**220**	**10**
10/21/2004	**70**	**10**
4/18/2005	**240**	**10**
10/13/2005	**170**	**10**
4/25/2006	**120**	**50**
10/20/2006	ND	**10**
4/25/2007	**12**	**10**
10/31/2007	**91**	**10**
4/23/2008	**39**	**10**
10/20/2008	**17**	**10**

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

	X_i values =
68	-172285.7
200	445178.08
230	1203064.9
280	3822484.5
190	292176.65
26	-930965
220	894622.2
70	-154368
240	1575321.3
170	99615.034
120	-48.37776
5	-1670070
12	-1391564
91.1	-34466.94
38.8	-610744.5
17.4	-1199251

X_{bar} =	123.64375
SD =	94.01134
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	135543.69
γ_1=	0.1797139

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 real detected values shown above.

	X_i values =
ln = 4.2195077	-0.001311
5.2983174	0.9109132
5.4380793	1.3644476
5.6347896	2.226785
5.2470241	0.7738301
3.2580965	-1.227946
5.3936275	1.2068827
4.2484952	-0.000521
5.4806389	1.5276206
5.1357984	0.5252791
4.7874917	0.0964188
1.6094379	-20.11263
2.4849066	-6.270572
4.5119578	0.0061302
3.6584202	-0.301465
2.8564702	-3.192569

X_{bar} = 4.3289412
SD = 1.2288701
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = -1.404294
γ_1 = 0.8336488

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	**68**	10	68
4/9/2001	**200**	10	200
4/15/2002	**230**	10	230
9/26/2002	**280**	10	280
4/28/2003	**190**	10	190
10/30/2003	**26**	10	26
4/20/2004	**220**	10	220
10/21/2004	**70**	10	70
4/18/2005	**240**	10	240
10/13/2005	**170**	10	170
4/25/2006	**120**	50	120
10/20/2006	ND	10	5
4/25/2007	**12**	10	12
10/31/2007	**91.1**	10	91.1
4/23/2008	**38.8**	10	38.8
10/20/2008	**17.4**	10	17.4

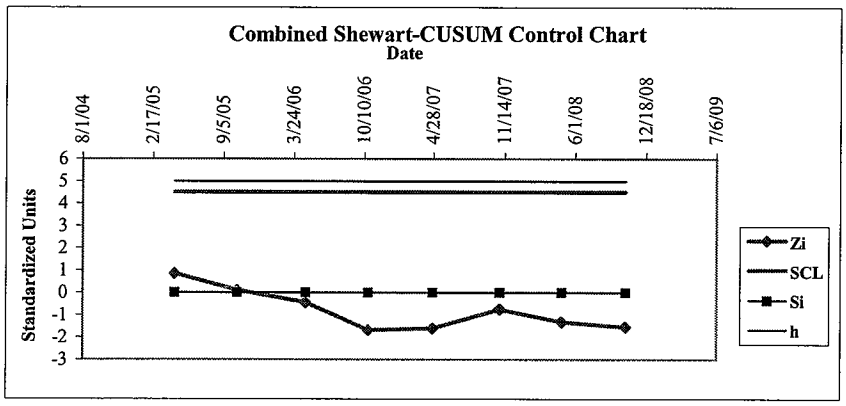
Compute the mean and standard deviation of the historical data:

160.5 = x_{mean} (Mean of N1-N8 historical data)
92.518724 = 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	0.85928552	0	5	4.5
10/13/2005	170	0.10268192	0	5	4.5
4/25/2006	120	-0.4377492	0	5	4.5
10/20/2006	5	-1.6807409	0	5	4.5
4/25/2007	12	-1.6050805	0	5	4.5
10/31/2007	91.1	-0.7501184	0	5	4.5
4/23/2008	38.8	-1.3154094	0	5	4.5
10/20/2008	17.4	-1.5467139	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:	Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-12	MDL
9/18/2001	**130**	**10**
10/29/2001	**200**	**10**
1/30/2002	**62**	**10**
4/15/2002	**51**	**10**
9/26/2002	**510**	**10**
10/30/2003	**61**	**10**
4/20/2004	**120**	**10**
10/21/2004	**27**	**10**
4/18/2005	**96**	**10**
10/13/2005	**330**	**10**
4/25/2006	ND	**50**
10/20/2006	**110**	**10**
4/25/2007	**37**	**10**
10/31/2007	**169**	**10**
4/23/2008	**32.7**	**10**
10/20/2008	**24.6**	**10**

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

		X_i values =
	130	207.34329
	200	437569.6
	62	-239266.2
	51	-390317.4
	510	57476146
	61	-251015.7
	120	-67.97976
	27	-914968.4
	96	-22143.66
	330	8731476.3
	25	-972690
	110	-2792.053
	37	-660349.7
	169	90632.297
	32.7	-763082.1
	24.6	-984518.1

X_{bar} =	124.08125
SD =	131.25089
N =	16
$1/N\Sigma_i(X_i-X_{bar})^3$ =	3845926.3
γ_1=	1.8738605

Since the Coefficient of Skewness of 1.87 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 =	4.8675345	0.1035495
	5.2983174	0.7298991
	4.1271344	-0.019861
	3.9318256	-0.101274
	6.2344107	6.1936506
	4.1108739	-0.023658
	4.7874917	0.0591113
	3.2958369	-1.338676
	4.5643482	0.0046075
	5.7990927	2.7507389
	3.2188758	-1.639157
	4.7004804	0.0276897
	3.6109179	-0.487498
	5.1298987	0.3921447
	3.4873751	-0.754994
	3.2027464	-1.707351

X_{bar} = 4.3979475
SD = 0.9319741
N = 16
$1/N\Sigma_i(X_i-X_{bar})^3$ = 0.2618075
γ_1 = 0.3562982

Since the Coefficient of Skewness of 0.36 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-12	MDL	Data for Testing
9/18/2001	**130**	10	4.8675345
10/29/2001	**200**	10	5.2983174
1/30/2002	**62**	10	4.1271344
4/15/2002	**51**	10	3.9318256
9/26/2002	**510**	10	6.2344107
10/30/2003	**61**	10	4.1108739
4/20/2004	**120**	10	4.7874917
10/21/2004	**27**	10	3.2958369
4/18/2005	**96**	10	4.5643482
10/13/2005	**330**	10	5.7990927
4/25/2006	ND	50	3.2188758
10/20/2006	**110**	10	4.7004804
4/25/2007	**37**	10	3.6109179
10/31/2007	**169**	10	5.1298987
4/23/2008	**32.7**	10	3.4873751
10/20/2008	**24.6**	10	3.2027464

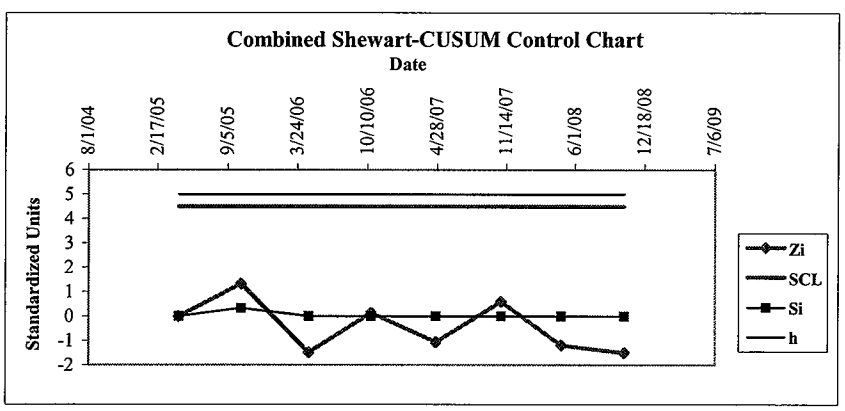
Compute the mean and standard deviation of the historical data:

4.5816781 = x_{mean} (Mean of N1-N8 historical data)
0.9159798 = 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	4.5643482	-0.0189196	0	5	4.5
10/13/2005	5.7990927	1.32908451	0.3290845	5	4.5
4/25/2006	3.2188758	-1.4878083	0	5	4.5
10/20/2006	4.7004804	0.12969963	0	5	4.5
4/25/2007	3.6109179	-1.0598053	0	5	4.5
10/31/2007	5.1298987	0.59850731	0	5	4.5
4/23/2008	3.4873751	-1.1946804	0	5	4.5
10/20/2008	3.2027464	-1.5054172	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:	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**

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

	X_i values =
4800	5.455E+10
800	-8914314
1800	498024507
770	-13370468
1200	7150444.7
1200	7150444.7
800	-8914314
780	-11750676
200	-5.26E+08
200	-5.26E+08
336	-3.03E+08
138	-6.57E+08
71.5	-8.2E+08

X_{bar} = 1007.3462
SD = 1247.2186
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = 4.015E+09
γ_1 = 2.3333321

Since the Coefficient of Skewness of 2.33 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 =	X_i values =
8.4763712	9.7319722
6.6846117	0.0404427
7.4955419	1.5375298
6.6463905	0.0283813
7.0900768	0.4197144
7.0900768	0.4197144
6.6846117	0.0404427
6.6592939	0.0321376
5.2983174	-1.134764
5.2983174	-1.134764
5.8171112	-0.144082
4.9272537	-2.82778
4.2696974	-8.891124

X_{bar} = 6.3413594

SD = 1.1613041
N = 13
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.144783
γ_1 = 0.1042372

Since the Coefficient of Skewness of 0.10 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

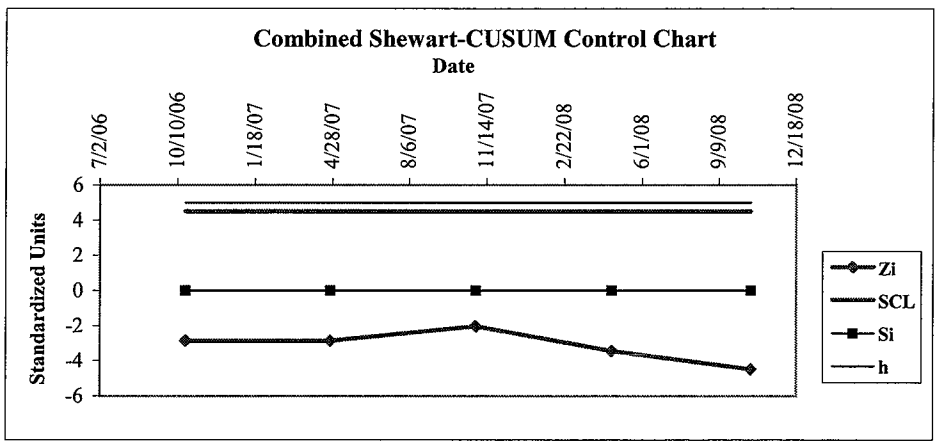
Compute the mean and standard deviation of the historical data:

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

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: **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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	100
06/26/00	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	100
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	100
04/09/01	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	100
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	100
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	100
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	100
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	100
04/15/02	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	100
04/28/03	NT	NT	NT	NT	NT	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	**28**	**15**	ND	ND	ND	ND	ND	ND	10
04/20/04	ND	ND	ND	ND	ND	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**	**14**	**19**	ND	ND	ND	ND	ND	ND	10
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	**53**	**17**	ND	ND	ND	ND	**16**	ND	10
10/13/05	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	10
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	10
04/25/07	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	2
04/23/08	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	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	28	15	5	5	5	5	5	5
04/20/04	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
10/21/04	5	24	5	5	5	5	5	5	15	14	19	5	5	5	5	5	5
04/18/05	5	5	5	5	5	5	5	5	5	53	17	5	5	5	5	16	5
10/13/05	5	5	5	5	5	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	5	5	5	5	5
10/20/06	5	5	5	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	5	5	5	5	5
10/31/07	1	1	1	1	1	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	1	1	1	1	1
10/20/08				1	1	1	1	1	1	1	1	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' = 10.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 30$
$T_{n1} = 145$

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).

$k = 14$
$n = 30$
$T_{n1} = 145$
$t[29,.01] = 2.462$
$c = 0.4667$
$T_{n2} = 14$
$T^*_k = 93.6$

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: **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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	100
06/26/00	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	100
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	100
04/09/01	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	100
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	100
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	100
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	100
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	100
04/15/02	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	100
04/28/03	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND	10
04/20/04	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	10
04/18/05	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	25
04/25/06	ND	ND	ND	ND	ND	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	NS	NS	ND	ND	ND	ND	ND	ND	25
04/25/07	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	25
04/23/08	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	140	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	5	5	5	5	5
04/20/04	5	5	5	5	5	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	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	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	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	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	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	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	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	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	12.5	12.5	140

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 10.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 30$
$T_{n1} = 307.5$

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).

$k = 14$
$n = 30$
$T_{n1} = 307.5$
$t[29,.01] = 2.462$
$c = 0.4667$
$T_{n2} = 302.5$
$T^*_k = 180.7$

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 exceeded, Wilcoxon Rank Sum Tests must be performed to test the possibility that the detected concentrations are statistically significant.

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

Compound: **Acetone**
MCL (µg/l): 700
Method: Wilcoxon Rank Sum
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-15	MDL
04/24/00	NT	NS	NS	NS	**100**
06/26/00	NT	NT	NS	NS	**100**
07/26/00	NT	NT	NS	NS	**100**
09/18/00	NS	NS	NS	NS	**100**
04/09/01	NT	NT	NS	NS	**100**
09/18/01	NS	NS	NS	NS	**100**
10/29/01	NS	NS	NS	NS	**100**
01/30/02	NS	NS	NS	NS	**100**
02/28/02	NS	NS	NS	NS	**100**
04/15/02	NT	NT	NS	NS	**100**
09/26/02	NT	NT	NT	NT	**100**
04/28/03	NT	NT	NT	NT	**100**
10/30/03	ND	ND	ND	ND	**10**
04/20/04	ND	ND	ND	ND	**10**
10/21/04	ND	ND	ND	ND	**10**
04/18/05	ND	ND	ND	ND	**25**
10/13/05	ND	ND	ND	ND	**25**
04/25/06	ND	ND	ND	ND	**25**
10/20/06	ND	ND	ND	ND	**25**
04/25/07	ND	ND	ND	ND	**25**
10/31/07	ND	ND	ND	ND	**25**
04/23/08	ND	ND	ND	ND	**25**
10/20/08	ND	ND	ND	**140**	**25**

1) Rank the N = 44 observations from the smallest to the largest from background wells and compliance well MW-15.

n =	11			
m =	33			
N =	44			
Ci (MW-15) =	264.0			
# samples =	11	11	11	11
sum of rank values (Ri) =	242.0	242.0	242.0	264.0
avg rank value (Rbar) =	22.0	22.0	22.0	24.0

	Number of each rank value				Rank Value
rank value of NDs =	11	11	11	10	22
rank value of 140s =	0	0	0	1	44
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
# samples =	**11**	**11**	**11**	**11**	

	Sum of rank value calculations			
	242	242	242	220
	0	0	0	44
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
sum of rank values (R_i)	**242**	**242**	**242**	**264**

2) Compute the Wilcoxon statistic by adding up the compliance well ranks and subtracting n/(n+1)/2.

$W = Ci - 1/2(n(n+1))$

$W = 198$

3) Compute the expected value and standard deviation of W.

$E(W) = 1/2mn$

$SD(W) = ((mn(N+1)/12)*(1-\Sigma^{g}_{i=1} (t_i^3 - t_i)/(N^3 - N)))^{0.5}$

$E(W) = 181.5$

Adjustment for tie values:

Tie Values:	$(t_i^3 - t_i)/(N^3 - N) =$
ND	0.933
140	0.000
0	0.000
0	0.000
0	0.000
0	0.000
0	0.000

$SD(W) = 9.526$

4) Form the appropriate Z-score.

$Z = (W - E(W) - 0.5)/SD(W)$

$Z = 1.680$

5) Compare the observed Z-score to the upper 0.01 percentile of the normal distribution.

$Z = 1.680$

$Z_{0.01} = 2.326$

Since Z is smaller, there is not significant evidence of contamination at the compliance well at the 1 percent significance level.

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-5A	MW-5D	MW-8	MW-9	MW-12	MW-13S	MW-13D	MW-15	MDL
04/24/00	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	100
06/26/00	NT	NT	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	100
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NS	NS	NS	NS	NS	NS	100
04/09/01	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NS	NS	NS	100
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	100
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	100
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NT	NT	NS	100
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NT	NS	NT	NS	100
04/15/02	NT	NT	NS	NT	NT	NT	NT	NT	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	NT	NT	NT	NT	NT	100
04/28/03	NT	NT	NT	NT	NT	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	ND	ND	ND	ND	ND	10
04/20/04	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	10
04/18/05	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	10
04/25/06	ND	ND	ND	ND	ND	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	NS	NS	ND	ND	ND	ND	ND	ND	10
04/25/07	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	5
04/23/08	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	54.4	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	5	5	5	5	5
04/20/04	5	5	5	5	5	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	5	5	5	5	5
04/18/05	5	5	5	5	5	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	5	5	5	5	5
04/25/06	5	5	5	5	5	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	5	5	5
04/25/07	5	5	5	5	5	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	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	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	2.5	54.4

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 10.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 30$
$T_{n1} = 135$

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).

$k = 14$
$n = 30$
$T_{n1} = 135$
$t\,[29,.01] = 2.462$
$c = 0.4667$
$T_{n2} = 86.9$
$T^*_k = 88.1$

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.