B L E

BUNNELL-LAMMONS ENGINEERING, INC.

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

REPORT OF GROUNDWATER QUALITY RESULTS & STATISTICAL ANALYSIS

SECOND SEMI-ANNUAL SAMPLING EVENT OF 2011

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

February 9, 2012

BLE Project Number J11-1957-27

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

February 9, 2012

Haywood County Solid Waste Management
278 Recycle Road
Clyde, North Carolina 28721

Attention: Mr. Stephen King
Solid Waste Director

Subject: **Report of Groundwater Quality Results & Statistical Analysis**
Second Semi-Annual Sampling Event of 2011
White Oak Landfill
Permit Number: 44-07
Haywood County, North Carolina
BLE Project Number J11-1957-27

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 2011 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, L.G.
Project Geologist
Licensed, North Carolina No. 2025

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

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

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

PROJECT INFORMATION

The White Oak 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 off Interstate 40 (**Figure 1**). The Subtitle D lined MSW landfill has eleven groundwater monitoring wells consisting of two upgradient (MW-11S and MW-11D) and nine downgradient wells (MW-1A, MW-2, MW-2D, MW-3r, MW-3Dr, MW-4A, MW-8, MW-16, and MW-17). Monitoring wells MW-5A, MW-5D, MW-12, MW-13S, and MW-13D were abandoned in 2009 and monitoring wells MW-16 and MW-17 were installed in 2010 as related to the construction of Phase No. 3 at the facility. Additionally, there are four surface water sampling points (SW-1, SW-2, SW-3, and SW-5), a leachate lagoon sampling point (LSP), and a settling pond sampling point (SPP). The C&D landfill, which is located on the same property, is monitored by one upgradient (MW-14), one downgradient well (MW-15), and two locations for surface water monitoring (SW-6 and SW-7).

BLE was retained by Haywood County to prepare the semi-annual sampling reports for 2011. 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 2011).

This report presents data from the second semi-annual sampling event in 2011 for the site. The water samples were collected and analyzed as required in North Carolina's regulations for operation of MSW and C&D landfills.

FIELD ACTIVITIES, SAMPLING, AND ANALYSIS

Groundwater and surface water samples were collected by personnel from Pace Analytical Services, Inc. (Pace) of Asheville, North Carolina on October 25, 2011. Sampling was performed in general accordance with the *Operations Plan* for the White Oak Landfill. Summary tables of historic and current analytical results are attached in **Appendix A** (groundwater) and **Appendix B** (surface water).

Water samples were collected from the monitoring wells, surface water points, and the LSP. The collected samples were analyzed in the laboratory for North Carolina's *Appendix I* list of constituents that include total metals and volatile organic compounds (VOCs) and in the field for pH, specific conductance, and temperature. A copy of the Pace laboratory and field data is included in **Appendix C**.

GROUNDWATER FLOW

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 barium (thirteen wells), total beryllium (one well), total chromium (five wells), total cobalt (five wells), total copper (seven wells), total lead (two well), total nickel (seven wells), total vanadium (five wells), and total zinc (nine wells) were detected in the groundwater monitoring wells during the current sampling event. Total barium (MW-2, MW-2D, and MW-3r) and total chromium (MW-11s and MW-1A) were detected at concentrations above the North Carolina maximum contaminant level[1] (MCL). No VOC's were detected. A summary of the detected concentrations is included in **Appendix A**.

Surface Water

Total metals were detected in each of the six surface water samples, and the LSP sample during the current sampling event. The detections included total arsenic (LSP), total barium (six surface waters and the LSP), total chromium (LSP), total cobalt (three surface waters and the LSP), total nickel (LSP), total vanadium (LSP), and total zinc (two surface waters and the LSP). No VOCs were detected in the samples from the surface water samples. However, seven VOCs (acetone, ethylbenzene, toluene, m&p-xylenes, o-xylenes, methyl-tert-butyl-ether, and naphthalene) and phosphorus were detected in the LSP sample. Only the concentrations of zinc in SW-3, and nickel and toluene in the LSP sample were detected above North Carolina's established surface water MCLs[2]; the other detections were either below the MCL or a MCL has not been established for the detected constituents. Additionally, one field parameter (pH) in SW-6 was measured below the established North Carolina minimum surface water MCL. Summary of the detected surface water concentrations is included in **Appendix B**.

STATISTICAL METHODS PERFORMED

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

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

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

1. If 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;

2. 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);

3. 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. Wilcoxon rank-sum tests were performed for those compounds that failed the initial Poisson Prediction Limits test; and

4. Intrawell comparisons were performed, if necessary, using Shewhart-CUSUM control charts or the Kendall-Mann Non-Parametric Trend Test.

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 that were 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 tests performed for total antimony, total selenium, total silver, total thallium, acetone, carbon disulfide, and 2-butanone did not calculate SSIs; and

2. The Kruskal-Wallis tests and Shewhart-CUSUM control charts did not calculate SSIs for total arsenic, total beryllium, total cadmium, total chromium, total cobalt, total copper, total lead, total nickel, total vanadium, and total zinc; however, the tests calculated an SSI for total barium in well MW-2.

CONCLUSION

Concentrations of various total metals were detected in the groundwater monitoring wells and surface water sampling points during the current sampling event. Only the concentrations of total

barium (MW-2, MW-2D, and MW-3r) and total chromium (MW-11s and MW-1A), total zinc (SW-3), pH (SW-6), and total nickel and toluene (LSP) were detected at concentrations exceeding North Carolina MCLs. The remaining detected concentrations were either below North Carolina's promulgated MCLs, or MCLs have not been established for a particular constituent. Additionally, only total barium in well MW-2 was calculated to be statistically significant.

The current sampling event represents the third (N3) baseline sampling event for new wells MW-16 and MW-17 installed in association with Phase No. 3 and the construction of the future Phase No. 4. As additional laboratory data becomes available for these wells during the following sampling events, statistical methods will be used to evaluate statistical significance.

In summary, the detected concentrations of total metals in the groundwater and surface water samples 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 sampling continue on a semi-annual basis for the *Appendix I* list of VOCs and total metals constituents. As a result of recent NCDENR solid waste rule revisions regarding statistical analysis requirements, we will review the necessity of performing statistical analysis of the water quality data for the facility prior to the next scheduled semi-annual sampling event.

TABLES

TABLE 1

GROUNDWATER MONITORING WELL CONSTRUCTION AND GROUNDWATER ELEVATION DATA
White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

October 25, 2011														
Well	**Northing (feet)**	**Easting (feet)**	**Meas. Pt. Elevation**	**Gnd. Surface Elevation**	***Depth to Water (bgs)**	**Depth to Water (bmp)**	**Water Elevation**	**Total Borehole Depth (bgs)**	**Screen Depth (bgs)**	**Screen Elevation**	**Well Type**	**Well Monitors**	**Top of Rock Depth (bgs)**	**Top of Rock Elev.**
MW-1A	721,096.30	812,481.47	2,520.02	2,517.97	17.45	19.50	2500.52	UK	10.4 - 25.4	2507.6 - 2492.6	UK	Deep Residuum	UK	UK
MW-2	721,460.76	812,309.44	2,496.71	2,494.43	28.59	30.87	2465.84	UK	19.9 - 34.9	2474.5 - 2459.5	UK	Deep Residuum/PWR	UK	UK
MW-2D	721,456.01	812,311.87	2,496.89	2,494.69	28.40	30.60	2466.29	UK	44.6 - 54.6	2450.1 - 2440.1	UK	Bedrock	36.9	2457.8
MW-3r	721,943.38	812,063.70	2,462.61	2,459.53	31.16	34.24	2428.37	41.5	26.3 - 41.3	2433.2 - 2418.2	II	Deep Residuum	NE	NE
MW-3Dr	721,940.67	812,082.82	2,461.89	2,458.42	34.77	38.24	2423.65	65.0	49.8 - 64.8	2408.6 - 2393.6	IIIs	Bedrock	44.0	2414.4
MW-4A	721,693.04	811,976.64	2,493.85	2,491.60	44.08	46.33	2447.52	UK	80.6 - 95.6	2411.0 - 2396.0	UK	Bedrock	23.3	2468.3
MW-8	721,704.50	812,155.03	2,477.33	2,474.84	28.74	31.23	2446.10	UK	31.0 - 41.0	2443.8 - 2433.8	UK	Deep Residuum	UK	UK
MW-11S	719,905.88	811,642.89	2,674.58	UK	UK	82.39	2592.19	UK	UK - UK	UK - UK	UK	UK	UK	UK
MW-11D	719,909.34	811,651.55	2,674.89	2,672.01	80.22	83.10	2591.79	UK	118.0 - 127.6	2554.0 - 2544.4	UK	Bedrock	97.0	2575.0
MW-14	UK	UK	2,711.69	UK	UK	101.69	2610.00	UK	UK - UK	UK - UK	UK	UK	UK	UK
MW-15	UK	UK	2,547.41	UK	UK	9.65	2537.76	UK	UK - UK	UK - UK	UK	UK	UK	UK
MW-16	721,821.98	811,660.70	2,519.35	2,516.07	32.33	35.61	2483.74	41.0	25.8 - 40.8	2490.3 - 2475.3	II	Fill / Residuum	40.0	2476.1
MW-17	721,783.47	811,219.93	2,542.55	2,539.13	53.58	57.00	2485.55	63.0	43.0 - 58.0	2496.1 - 2481.1	II	Bedrock	40.0	2499.1

Notes:
All survey data provided by McGill Associates, all units in feet. Data for MW-14 & MW-15 sourced from historical Municipal Engineering reports.
*DTW from bgs values have been calculated from survey data provided by McGill Associates.
All values shown to the nearest 0.1-ft have been rounded.
Water levels were measured on 10/25/2011 by Pace Analytical.
MW-4A was lowered 4.59 feet by Haywood County. All bgs referenced depths for MW-4A have been adjusted accordingly on this table.

Measuring Point Elevation is top of casing.
II = Type II well
IIIs = Type III screened well
NE = Not encountered
UK = Unknown, information is not available

Prepared by: IAI
Checked by: DRM

TABLE 2

GROUNDWATER FLOW DATA
White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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	0.0789	0.114	0.29	107.37
MW-2	1.50E-04	2.95E-04	4.31E+00	0.0789	0.114	2.98	1,087.13
MW-4A	1.49E-04	2.93E-04	4.28E+00	0.0909	0.05	7.78	2,837.98
MW-8	1.50E-04	2.95E-04	4.31E+00	0.0789	0.114	2.98	1,087.13
MW-11S	2.40E-06	4.72E-06	6.89E-02	0.0607	0.114	0.04	13.39
MW-14	1.38E-05	2.72E-05	3.96E-01	0.0667	0.17	0.16	56.69
MW-15	2.10E-05	4.13E-05	6.03E-01	0.0667	0.17	0.24	86.27

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 October 25, 2011 sampling event.
3. Groundwater flow velocities calculated using the equation $V = Ki/n_e$ where
4. V = velocity
5. K = hydraulic conductivity
6. i = hydraulic gradient
7. n_e = effective porosity
8. NA = information not available

TABLE 3

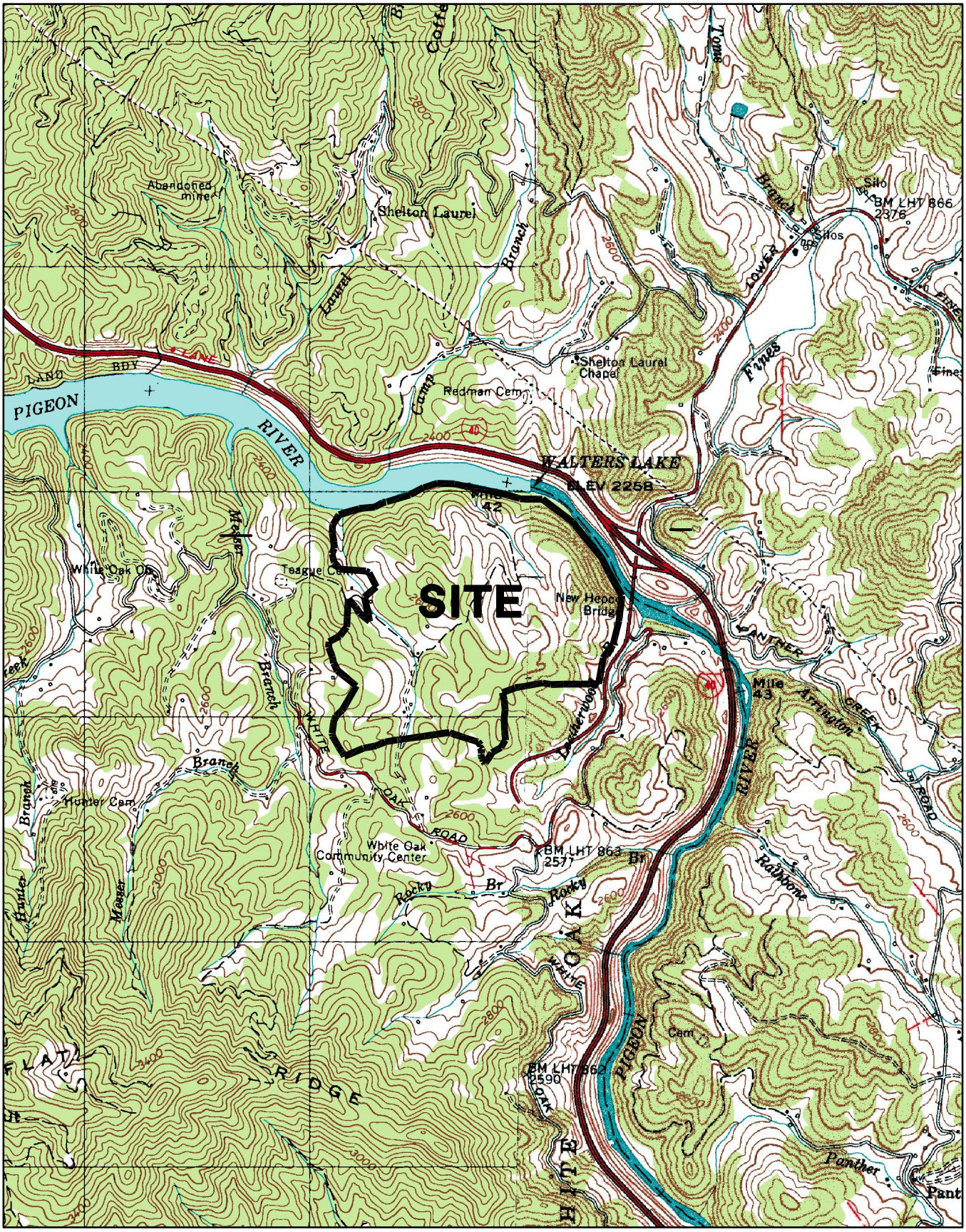
SUMMARY OF STATISTICAL ANALYSIS RESULTS
White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

Chemical/ Compound	Percent ND	Primary Statistical Test	Primary Pass/Fail	Secondary Statistical Test	Secondary Pass/Fail	SSI Calculated	SSI Validated as Leachate	SSI Concentration Above MCL During Current Event
Total Antimony	97%	Poisson Prediction Limits	Pass	-	-	-	-	-
Total Arsenic	88%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Barium *	7%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Fail	MW-2	No	No
Total Beryllium	81%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Cadmium	84%	Kruskal-Wallis	Pass	-	-	-	-	-
Total Chromium	47%	Kruskal-Wallis	Pass	-	-	-	-	-
Total Cobalt	60%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Copper	54%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Lead	68%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Nickel	45%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Selenium	98%	Poisson Prediction Limits	Pass	-	-	-	-	-
Total Silver	99%	Poisson Prediction Limits	Pass	-	-	-	-	-
Total Thallium	92%	Poisson Prediction Limits	Pass	-	-	-	-	-
Total Vanadium	48%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Total Zinc	27%	Kruskal-Wallis	Fail	Shewhart-CUSUM	Pass	-	-	-
Acetone	99%	Poisson Prediction Limits	Pass	-	-	-	-	-
Carbon Disulfide	98%	Poisson Prediction Limits	Pass	-	-	-	-	-
2-Butanone	99%	Poisson Prediction Limits	Pass	-	-	-	-	-

Notes:

1. MCL = *Maximum Contaminant Level*
2. SSI = *Statistically Significant Increase*
3. * = The dataset for total barium was not homogeneous and normally distributed. Therefore, a non-parametric ANOVA testing procedure was used (Kruskal-Wallis) rather than parametric ANOVA.

FIGURES



2000 1000 0 2000 4000

APPROXIMATE SCALE IN FEET

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

DRAWN: ACE	DATE: 01-28-12	BLE INC. BUNNELL-LAMMONS ENGINEERING, INC. 6004 PONDERS COURT GREENVILLE, SOUTH CAROLINA 29615 PHONE: (864)288-1265 FAX: (864)288-4430	SITE LOCATION MAP WHITE OAK LANDFILL HAYWOOD COUNTY, NORTH CAROLINA	FIGURE 1
CHECKED: TJB	CAD: HCWOLF27-SLM			
APPROVED:	JOB NO: J11-1957-27			

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

REFERENCES:
DRAWING TITLED "ENVIRONMENTAL MONITORING PLAN AS-BUILT INFORMATION" (OCTOBER 2010) PROVIDED BY McGILL ASSOCIATES.
LOCATION OF AND SURVEY DATA FOR MW-14 AND MW-15 SOURCED FROM HISTORICAL REPORTS BY MUNICIPAL ENGINEERING.

REVISIONS		
No.	DESCRIPTION	BY

DRAWN:	ACE
CHECKED:	IAI
APPROVED:	MSP

DATE:	01-28-12
CAD FILE:	HCWOLF27-WTM102511
JOB NO:	J11-1957-27

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
6004 FONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615
PHONE: (864)288-1288 FAX: (864)288-6480

GROUNDWATER ELEVATION CONTOUR MAP – OCTOBER 25, 2011
WHITE OAK LANDFILL
HAYWOOD COUNTY, NORTH CAROLINA

FIGURE NO.
2

APPENDICES

APPENDIX A

SUMMARY TABLES OF GROUNDWATER ANALYTICAL RESULTS

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

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

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 (6-26-2000)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**5.9**	**6.8**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**29**	**60**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Temperature	°C (on-site)	-	NE	**14**	**14**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	**300**	**67**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Beryllium (Be)	µg/l	2	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	**1.6**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**22**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**10**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**17**	**6**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Lead (Pb)	µg/l	10	15	ND	**10**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**15**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Thallium (Tl)	µg/l	2	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**40**	**6.3**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	**37**	**12**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Acetone	µg/l	100	700	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Benzene	µg/l	5	1	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromoform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloroethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
2-Hexanone	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Styrene	µg/l	10	100	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Toluene	µg/l	5	1000	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Xylene	µg/l	5	530	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT

Notes:

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Temperature	°C (on-site)	-	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	**330**	**30**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Beryllium (Be)	µg/l	2	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	**1.1**	**3.2**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**29**	**20**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**9.9**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**12**	**6.1**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Lead (Pb)	µg/l	10	15	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**16**	**9.7**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Thallium (Tl)	µg/l	2	NE	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**45**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	**65**	**66**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Acetone	µg/l	100	700	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Benzene	µg/l	5	1	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromoform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloroethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
2-Hexanone	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Styrene	µg/l	10	100	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Toluene	µg/l	5	1000	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Xylene	µg/l	5	530	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	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

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

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	**330**	**92**	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NT	NT	NS	NS	NS	ND	NS	NS	NP	NP	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	**8.8**	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	ND
Acetone	µg/l	100	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Benzene	µg/l	5	1	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Styrene	µg/l	10	100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Toluene	µg/l	5	1000	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT
Xylene	µg/l	5	530	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	NP	NP	NT

Notes:

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Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**5.9**	**7.3**	NS	**6.4**	**6**	**6.3**	**6**	**6.1**	**8.2**	**5.8**	NS	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**20**	**60**	NS	**75**	**75**	**68**	**130**	**90**	**110**	**125**	NS	NP	NP	NT
Temperature	°C (on-site)	-	NE	**15**	**15**	NS	**13**	**15**	**15**	**14**	**15**	**15**	**15**	NS	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	**1300**	**380**	NS	**180**	**330**	**120**	**80**	**290**	**360**	**970**	NS	NP	NP	ND
Total Beryllium (Be)	µg/l	2	NE	**2.3**	**7**	NS	ND	ND	ND	ND	ND	**2.4**	**4.8**	NS	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	**130**	**2**	NS	ND	ND	ND	**1.7**	**1.8**	**2.7**	**19**	NS	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**130**	ND	NS	**11**	**8.4**	ND	ND	**20**	**27**	**160**	NS	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**54**	ND	NS	ND	ND	ND	**13**	**12**	**13**	**59**	NS	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**77**	**8.4**	NS	ND	ND	**5.4**	ND	**26**	**38**	**110**	NS	NP	NP	ND
Total Lead (Pb)	µg/l	10	15	ND	**59**	NS	ND	ND	ND	ND	ND	**18**	**2.5**	NS	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**76**	**7.2**	NS	**9.6**	**5.3**	ND	ND	**18**	**28**	**6.1**	NS	NP	NP	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Thallium (Tl)	µg/l	2	NE	**40**	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**250**	**1.4**	NS	**13**	**19**	**9.3**	ND	**24**	**41**	**230**	NS	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	**230**	**130**	NS	**12**	**24**	**18**	**17**	**33**	**75**	**200**	NS	NP	NP	**24**
Acetone	µg/l	100	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Benzene	µg/l	5	1	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Bromoform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Chloroethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
2-Hexanone	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Styrene	µg/l	10	100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Toluene	µg/l	5	1000	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Xylene	µg/l	5	530	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT

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

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

Notes:

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

MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Total Antimony (Sb)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Thallium (Tl)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	**3.1**
Total Vanadium (V)	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	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.

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ND = Not Detected at the method detection limit

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

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

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

Notes:

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

MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Temperature	°C (on-site)	-	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Total Antimony (Sb)	µg/l	30	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Arsenic (As)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Barium (Ba)	µg/l	500	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Beryllium (Be)	µg/l	2	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Chromium (Cr)	µg/l	10	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Cobalt (Co)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Copper (Cu)	µg/l	200	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Lead (Pb)	µg/l	10	15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Nickel (Ni)	µg/l	50	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Selenium (Se)	µg/l	20	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Silver (Ag)	µg/l	10	18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Thallium (Tl)	µg/l	20	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Vanadium (V)	µg/l	40	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Total Zinc (Zn)	µg/l	50	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	ND
Acetone	µg/l	100	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Acrylonitrile	µg/l	200	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Benzene	µg/l	5	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromodichloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromoform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Carbon Disulfide	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Carbon tetrachloride	µg/l	10	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chlorobenzene (mono)	µg/l	5	50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloroethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloroform	µg/l	5	0.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dibromochloromethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dibromomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichlorobenzene	µg/l	5	620	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,4-Dichlorobenzene	µg/l	5	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1-Dichloroethane	µg/l	5	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichloroethane	µg/l	5	0.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2-Dichloropropane	µg/l	5	0.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Ethylbenzene	µg/l	5	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
2-Hexanone	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Iodomethane	µg/l	10	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Styrene	µg/l	10	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Toluene	µg/l	5	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,1-Trichloroethane	µg/l	5	200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,1,2-Trichloroethane	µg/l	5	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Trichlorofluoromethane	µg/l	5	2100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
1,2,3-Trichloropropane	µg/l	15	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Vinyl acetate	µg/l	50	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Vinyl chloride	µg/l	10	0.015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT
Xylene	µg/l	5	530	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NP	NP	NT

Notes:

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MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

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Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.01**	**6.42**	NS	**6.46**	**5.89**	**5.25**	**5.75**	**5.68**	**6.88**	**6.01**	NS	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**21**	**42**	NS	**75**	**82**	**84**	**101**	**93**	**94**	**125**	NS	NP	NP	NT
Temperature	°C (on-site)	-	NE	**15.9**	**17.4**	NS	**15.3**	**15.7**	**16.8**	**16.2**	**13.2**	**16.3**	**17.3**	NS	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Total Antimony (Sb)	µg/l	10	NE	**15.0**	ND	NS	ND	ND	ND	NT	ND	ND	**11**	NS	NP	NP	ND
Total Arsenic (As)	µg/l	10	50	ND	ND	NS	ND	ND	ND	NT	ND	ND	ND	NS	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	**1300**	**41**	NS	ND	ND	**160**	**23**	**190**	**460**	**1400**	NS	NP	NP	ND
Total Beryllium (Be)	µg/l	2	NE	**2.1**	ND	NS	ND	ND	ND	ND	ND	**2.5**	**4.5**	NS	NP	NP	ND
Total Cadmium (Cd)	µg/l	10	5	**13**	ND	NS	ND	ND	ND	**4**	ND	**5.5**	**19**	NS	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**170**	ND	NS	ND	ND	**5.7**	**7**	**10**	**56**	**180**	NS	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**58**	ND	NS	ND	ND	ND	**18**	**8.2**	**21**	**82**	NS	NP	NP	ND
Total Copper (Cu)	µg/l	2	1000	**69**	ND	NS	ND	ND	ND	ND	**13**	**68**	**120**	NS	NP	NP	**150**
Total Lead (Pb)	µg/l	10	15	**13**	ND	NS	ND	ND	ND	ND	ND	**13**	**29**	NS	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**74**	ND	NS	ND	ND	ND	**6.2**	**9.2**	**44**	**68**	NS	NP	NP	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Thallium (Tl)	µg/l	2	NE	**40**	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**240**	ND	NS	ND	ND	**11**	**21**	**14**	**69**	**260**	NS	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	**230**	**16**	NS	ND	ND	**13**	**33**	**38**	**120**	**230**	NS	NP	NP	**15**
Acetone	µg/l	100	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Benzene	µg/l	5	1	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Bromoform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Chloroethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Chloroform	µg/l	5	0.19	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Dibromomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Ethylbenzene	µg/l	5	29	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
2-Hexanone	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Iodomethane	µg/l	10	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Styrene	µg/l	10	100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Toluene	µg/l	5	1000	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Xylene	µg/l	5	530	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT

Notes:

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MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

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NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.5**	**7.3**	**7.09**	**6.14**	**6.17**	**6.18**	**5.96**	**5.96**	**7.22**	**6.37**	**6.65**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**22**	**59**	**52**	**71**	**85**	**82**	**117**	**101**	**92**	**130**	**97**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**15.1**	**13.5**	**13.7**	**13.5**	**13.9**	**14**	**15.8**	**14.6**	**15.1**	**17.7**	**16.6**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	10	NE	ND	ND	ND	**12**	ND	ND	ND	ND	ND	ND	**98**	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	**5.7**	ND	ND	ND	ND	ND	ND	**27**	ND	**68**	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	**330**	**500**	**750**	**4200**	**120**	**230**	**93**	**410**	**910**	**1400**	**11000**	NP	NP	ND
Total Beryllium (Be)	µg/l	2	NE	ND	**7**	**2.1**	**5.1**	ND	ND	ND	ND	**8.5**	**4.7**	**95**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	**4.2**	**21**	ND	**10**	ND	**2.3**	**4.2**	**19**	**180**	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**33**	**5.4**	**33**	**510**	ND	**5.2**	ND	**37**	**36**	**230**	**770**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**13**	**5.4**	**16**	**100**	ND	**16**	**7.4**	**21**	**19**	**85**	**560**	NP	NP	ND
Total Copper (Cu)	µg/l	2	1000	**20**	**10**	**31**	**220**	ND	ND	**2.6**	**42**	**88**	**150**	**450**	NP	NP	ND
Total Lead (Pb)	µg/l	10	15	ND	**76**	**29**	ND	ND	ND	ND	ND	**150**	**20**	**740**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**16**	**6.8**	**31**	**400**	ND	ND	ND	**27**	**40**	**78**	**430**	NP	NP	ND
Total Selenium (Se)	µg/l	20	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**65**	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**58**	**16**	**44**	**640**	ND	ND	ND	**42**	**50**	**310**	**1000**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	**57**	**120**	**110**	**580**	ND	**20**	ND	**56**	**250**	**280**	**4800**	NP	NP	**2000**
Acetone	µg/l	100	700	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Acrylonitrile	µg/l	200	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Benzene	µg/l	5	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Bromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Bromodichloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Bromoform	µg/l	5	0.19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Carbon Disulfide	µg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Bromomethane (Methylbromide)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Carbon tetrachloride	µg/l	10	0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Chlorobenzene (mono)	µg/l	5	50	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Chloroethane	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Chloroform	µg/l	5	0.19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Chloromethane (Methylchloride)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Dibromochloromethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	25	0.025	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Dibromomethane	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,2-Dichlorobenzene	µg/l	5	620	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,4-Dichlorobenzene	µg/l	5	75	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
trans-1,4-Dichloro-2-butene	µg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,1-Dichloroethane	µg/l	5	700	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,2-Dichloroethane	µg/l	5	0.38	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,2-Dichloropropane	µg/l	5	0.56	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Ethylbenzene	µg/l	5	29	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
2-Hexanone	µg/l	50	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Iodomethane	µg/l	10	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Dichloromethane (Methylene chloride)	µg/l	10	5	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
2-Butanone (Methyl ethyl ketone)	µg/l	100	170	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
4-Methyl-2-Pentanone	µg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Styrene	µg/l	10	100	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Toluene	µg/l	5	1000	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,1,1-Trichloroethane	µg/l	5	200	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,1,2-Trichloroethane	µg/l	5	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Trichlorofluoromethane	µg/l	5	2100	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
1,2,3-Trichloropropane	µg/l	15	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Vinyl acetate	µg/l	50	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Vinyl chloride	µg/l	10	0.015	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Xylene	µg/l	5	530	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	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 (4-28-2003)

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

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

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

Notes:

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MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.71**	**6.81**	**6.78**	**5.57**	**5.4**	**5.47**	**5.47**	**5.41**	**7.36**	**5.17**	**6.83**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**25**	**31**	**40**	**67**	**135**	**120**	**115**	**100**	**100**	**115**	**70**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**15.8**	**15.6**	**15.5**	**13.5**	**14.6**	**14.4**	**13.5**	**14.1**	**15.3**	**14.9**	**13.8**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7.4**	**30**	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	**320**	**56**	**120**	**410**	**460**	**170**	**140**	**210**	**62**	**940**	**2000**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**21**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8.8**	**8.9**	NP	NP	ND
Total Chromium (Cr)	µg/l	2	50	**33**	ND	**2.1**	**45**	**13**	ND	ND	**11**	**3.5**	**190**	**68**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**9.5**	ND	ND	**7.7**	**5.2**	ND	**13**	**6.4**	ND	**43**	**50**	NP	NP	ND
Total Copper (Cu)	µg/l	2	1000	**18**	ND	**2.8**	**12**	**5.3**	**2.3**	**4.3**	**13**	**7.4**	**100**	**89**	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	**7.2**	**7**	**5.2**	**6.4**	**5.4**	ND	ND	ND	**12**	**39**	**250**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**20**	ND	ND	**30**	**7.3**	ND	ND	**12**	**5.3**	**49**	**110**	NP	NP	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	**5**	ND	ND	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**55**	ND	ND	**45**	**25**	ND	ND	**13**	**5.1**	**240**	**88**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	**55**	**10**	ND	**44**	**30**	**11**	**14**	**19**	**23**	**220**	**770**	NP	NP	**11**
Acetone	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Carbon tetrachloride	µg/l	5	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Chloromethane (Methylchloride)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,4-Dichlorobenzene	µg/l	5	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,1-Dichloroethane	µg/l	5	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,2-Dichloropropane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
cis-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
trans-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Dichloromethane (Methylene chloride)	µg/l	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
2-Butanone (Methyl ethyl ketone)	µg/l	10	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
1,2,3-Trichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	NT

Notes:

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.83**	**6.55**	**6.76**	**6.9**	**5.92**	**6.39**	**5.75**	**6.03**	**7.84**	**5.57**	**7.12**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**29**	**49**	**62**	**96**	**290**	**302**	**196**	**148**	**111**	**198**	**134**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**14.3**	**16.7**	**14**	**13**	**14.7**	**14.3**	**15**	**14.5**	**14.2**	**14.6**	**17**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**59**	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	**320**	**40**	**200**	**300**	**310**	**140**	**140**	**130**	**12**	**900**	**4900**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.4**	**28**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Chromium (Cr)	µg/l	2	50	**21**	ND	**2.8**	**16**	**2**	ND	ND	ND	ND	**120**	**140**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**6.2**	ND	ND	ND	ND	ND	ND	ND	ND	**31**	**120**	NP	NP	ND
Total Copper (Cu)	µg/l	2	1000	**11**	ND	ND	**2**	ND	ND	ND	ND	ND	**63**	**140**	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	**7.2**	**5.6**	**5.7**	ND	ND	ND	ND	ND	ND	**24**	**430**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**12**	ND	ND	**13**	ND	ND	ND	ND	ND	**35**	**160**	NP	NP	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**41**	ND	ND	**18**	ND	ND	ND	ND	ND	**160**	**210**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	**29**	ND	ND	**17**	ND	**14**	ND	**12**	**15**	**70**	**1200**	NP	NP	ND
Acetone	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon Disulfide	µg/l	10	NE	ND	**24**	ND	ND	ND	ND	ND	ND	**15**	ND	ND	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon tetrachloride	µg/l	5	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,4-Dichlorobenzene	µg/l	5	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethane	µg/l	5	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloropropane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2,3-Trichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	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-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.95**	**7.44**	**6.15**	**6.2**	**5.58**	**6.04**	**6.02**	**6.18**	**7.46**	**5.6**	**6.85**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**25**	**40**	**42**	**78**	**330**	**161**	**171**	**139**	**95**	**149**	**138**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**14.2**	**15.6**	**15**	**13.5**	**15**	**17.7**	**13**	**13.5**	**16.2**	**14.1**	**16.4**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	**10**	ND	ND	ND	ND	ND	**5.2**	**65**	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	**480**	**55**	**160**	**7200**	**610**	**180**	**160**	**140**	**12**	**1000**	**3700**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	**7.2**	ND	ND	ND	ND	ND	**3.8**	**26**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Chromium (Cr)	µg/l	2	50	**49**	**12**	**8.3**	**680**	**2.9**	ND	ND	**3.2**	ND	**210**	**100**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**12**	ND	ND	**110**	ND	ND	ND	ND	ND	**36**	**70**	NP	NP	ND
Total Copper (Cu)	µg/l	2	1000	**29**	ND	ND	**240**	ND	ND	ND	**3.8**	ND	**120**	**130**	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	**13**	**8**	**5.2**	**73**	ND	ND	ND	ND	ND	**39**	**380**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**29**	**9.6**	**17**	**460**	ND	ND	**5.5**	**5.4**	ND	**59**	**170**	NP	NP	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**85**	ND	ND	**680**	**5.4**	ND	ND	ND	ND	**240**	**110**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	**83**	ND	ND	**780**	ND	**30**	**13**	**10**	ND	**240**	**1200**	NP	NP	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon tetrachloride	µg/l	5	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,4-Dichlorobenzene	µg/l	5	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethane	µg/l	5	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloropropane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2,3-Trichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	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-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**7.21**	**7.38**	**7.79**	**6.36**	**6.07**	**6.25**	**6.08**	**6.6**	**7.73**	**6.08**	**6.72**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**21**	**35**	**40**	**85**	**580**	**201**	**185**	**160**	**102**	**180**	**52**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**13.2**	**14**	**13.3**	**13.3**	**14.9**	**14.3**	**16.5**	**15.5**	**15.3**	**16.5**	**16.8**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**44**	NP	NP	ND
Total Barium (Ba)	µg/l	5	1000	**770**	**37**	**160**	**1700**	**870**	**250**	**160**	**140**	**27**	**810**	**2700**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	**3**	ND	ND	ND	ND	ND	**3.4**	**21**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Chromium (Cr)	µg/l	2	50	**52**	ND	**3.7**	**230**	**4.7**	ND	ND	ND	ND	**150**	**88**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**21**	ND	ND	**32**	ND	ND	**5.1**	ND	ND	**29**	**56**	NP	NP	ND
Total Copper (Cu)	µg/l	2	1000	**31**	**2.6**	**3.5**	**70**	ND	ND	ND	ND	**3**	**82**	**96**	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	**14**	**6.9**	ND	**20**	ND	ND	ND	ND	ND	**29**	**290**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**29**	ND	ND	**160**	**6.8**	ND	ND	**6.1**	ND	**46**	**100**	NP	NP	ND
Total Selenium (Se)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	2	18	**2.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	10	NE	**22**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**82**	ND	ND	**210**	**8.9**	ND	ND	ND	ND	**170**	**82**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	2100	**92**	**13**	**12**	**230**	**19**	**25**	ND	ND	**14**	**170**	**800**	NP	NP	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromodichloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon Disulfide	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon tetrachloride	µg/l	5	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichlorobenzene	µg/l	5	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,4-Dichlorobenzene	µg/l	5	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethane	µg/l	5	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloropropane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Ethylbenzene	µg/l	5	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichlorofluoromethane	µg/l	5	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2,3-Trichloropropane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND

Notes:

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

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

Notes:

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MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.47**	**6.81**	**6.51**	**6.74**	**5.56**	**6.14**	**5.87**	**5.74**	**8.2**	**5.61**	**5.97**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**229**	**48**	**53**	**108**	**876**	**564**	**149**	**200**	**12.8**	**330**	**33**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**12.2**	**11.9**	**12.8**	**12.5**	**12.7**	**12.9**	**14.9**	**13.7**	**13.5**	**13.3**	**14.9**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**13**	NP	NP	ND
Total Barium (Ba)	µg/l	5	2000	**410**	**22**	**180**	**470**	**1100**	ND	ND	ND	**160**	ND	**650**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.7**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	1.75	**3.8**	ND	ND	ND	ND	ND	ND	ND	**1.5**	ND	**5.2**	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**50**	ND	**11**	**24**	ND	ND	ND	ND	**17**	ND	**27**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**26**	ND	ND	**9.6**	ND	ND	ND	ND	**20**	ND	**25**	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	**20**	ND	ND	ND	ND	ND	ND	ND	**32**	ND	**89**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**22**	ND	**8.3**	**25**	ND	ND	ND	ND	**13**	ND	**24**	NP	NP	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**79**	ND	ND	**28**	ND	ND	ND	ND	**23**	ND	**30**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	1050	**74**	ND	**20**	**37**	ND	ND	ND	ND	**55**	ND	**200**	NP	NP	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Acrylonitrile	µg/l	25	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Benzene	µg/l	5	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromodichloromethane	µg/l	5	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromoform	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon Disulfide	µg/l	10	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon tetrachloride	µg/l	5	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chlorobenzene (mono)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroethane	µg/l	10	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroform	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	5	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromochloromethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	5	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichlorobenzene	µg/l	5	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,4-Dichlorobenzene	µg/l	5	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethane	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloroethane	µg/l	5	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	5	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloropropane	µg/l	5	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	5	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Ethylbenzene	µg/l	5	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Hexanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Iodomethane	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	5	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	10	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Styrene	µg/l	5	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	5	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Toluene	µg/l	5	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1-Trichloroethane	µg/l	5	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2-Trichloroethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichlorofluoromethane	µg/l	10	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2,3-Trichloropropane	µg/l	5	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl acetate	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl chloride	µg/l	5	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Xylene	µg/l	5	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND

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

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

Notes:

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MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.6**	**6.8**	**6.3**	**6.22**	**5.9**	**6**	**5.5**	**5.9**	**7.99**	**5.5**	**5.9**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**28**	**61**	**45**	**94**	**1475**	**911**	**346**	**300**	**132**	**543**	**36**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**13.8**	**16**	**16.1**	**14.8**	**17.5**	**17.6**	**17.5**	**17.2**	**14.8**	**15.6**	**17.2**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**21.4**	NP	NP	ND
Total Barium (Ba)	µg/l	5	2000	**501**	**31.5**	**223**	**198**	**1350**	**591**	**184**	**208**	**62.4**	**516**	**872**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**40.9**	ND	**11.9**	**10.9**	**7.8**	ND	ND	ND	**5.1**	**75.5**	**33.7**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**16.8**	ND	ND	ND	**10.6**	ND	ND	ND	ND	ND	**17.6**	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**29.2**	ND	ND	ND	ND	ND	ND	ND	**6.3**	**40.3**	**47.4**	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	**17.5**	**8.1**	ND	ND	ND	ND	ND	ND	ND	**12.3**	**123**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**24**	ND	**8**	**8.4**	**13.8**	ND	**5.8**	**9.8**	ND	**20.2**	**36.2**	NP	NP	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	5.5	NE	**11.6**	ND	ND	ND	ND	ND	ND	ND	ND	**9.5**	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**89**	ND	**8.8**	**14.7**	**20**	ND	ND	ND	**8.6**	**103**	**48.2**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	1050	**86**	ND	**66.2**	**14**	**37.4**	**33.3**	**12**	ND	**11.6**	**91.1**	**336**	NP	NP	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.59**	**7.22**	**6.58**	**6.33**	**5.71**	**6.05**	**5.66**	**5.65**	**8.13**	**5.56**	**6.69**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**25**	**49**	**49**	**102**	**1546**	**946**	**411**	**318**	**124**	**481**	**33**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**13.9**	**14.2**	**14.2**	**13.2**	**14.6**	**14.4**	**13.4**	**14.7**	**17.4**	**14.8**	**14.1**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10.2**	NP	NP	ND
Total Barium (Ba)	µg/l	5	2000	**194**	**30.8**	**253**	**168**	**1230**	**661**	**216**	**202**	**61.8**	**151**	**361**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.6**	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**10.7**	ND	**16.8**	**7.8**	ND	ND	ND	ND	**7.6**	**7.3**	**14.9**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**22.3**	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**7.2**	ND	ND	ND	ND	ND	ND	ND	**7.2**	ND	**17**	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	ND	ND	**8.4**	ND	ND	ND	ND	ND	**5.8**	ND	**50.2**	NP	NP	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	**19**	NP	NP	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	5.5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**26.1**	ND	**11.4**	**9.7**	**10.1**	ND	ND	**5.1**	**9.7**	**10**	**23.1**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	1050	**27.3**	ND	**50.3**	**12.2**	**24.4**	**36.9**	ND	**10.3**	**17.5**	**38.8**	**138**	NP	NP	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND

Notes:

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

MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**5.7**	**6.7**	**6.2**	**6.1**	**5.9**	**6.0**	**5.9**	**5.8**	**7.9**	**5.6**	**5.5**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**28.0**	**54.0**	**44.0**	**104**	**1420**	**1111**	**320**	**350.0**	**129.0**	**621.0**	**41.0**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**13.8**	**14.2**	**12.0**	**13.2**	**14.3**	**15.4**	**14.9**	**14.6**	**15.2**	**14.5**	**16.5**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6.6**	NP	NP	ND
Total Barium (Ba)	µg/l	5	2000	**474**	**66.0**	**313**	**224**	**1210**	**894**	**164**	**216**	**41.1**	**182**	**245**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	**1.9**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**38.6**	ND	**29.4**	**12.7**	ND	ND	ND	ND	ND	ND	**6.8**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**27.0**	**10.4**	**19.5**	**9.4**	**7.7**	ND	**12.6**	**5.3**	**7.1**	ND	**18.4**	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**26.5**	ND	**8.3**	ND	ND	ND	ND	ND	ND	ND	**9.7**	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	ND	**13.5**	**7.6**	ND	ND	ND	ND	ND	ND	ND	**25.9**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**23.0**	ND	**21.0**	**11.1**	**10.7**	**7.5**	ND	**14.0**	ND	ND	**8.5**	NP	NP	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	5.4	NE	**7.2**	ND	ND	ND	ND	ND	ND	**6.1**	ND	ND	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**79.0**	ND	**15.1**	**15.8**	ND	ND	ND	ND	**5.4**	ND	**14.8**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	1050	**66.5**	**19.9**	**59.2**	**15.3**	**10.6**	**29.1**	ND	**12.4**	ND	**17.4**	**71.5**	NP	NP	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**140**	NP	NP	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**54.4**	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NP	NP	ND

Notes:

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Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**5.64**	**6.89**	**6.32**	**5.83**	**5.74**	**5.92**	**5.75**	**5.72**	**7.56**	**5.47**	NS	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**28.0**	**53.0**	**12.0**	**131**	**1427**	**1109**	**398**	**358**	**131**	**536.0**	NS	NP	NP	NT
Temperature	°C (on-site)	-	NE	**13.3**	**13.1**	**47**	**13.4**	**12.8**	**13.1**	**11.7**	**12.1**	**14.4**	**15.1**	NS	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NS	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	**5.4**	ND	ND	**5.6**	ND	ND	ND	ND	NS	NP	NP	ND
Total Barium (Ba)	µg/l	5	2000	**126**	**47.2**	**591**	**309**	**1300**	**817**	**230**	**216**	**77.0**	**163**	NS	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	**1.5**	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**12.3**	ND	**28.9**	**19.7**	**5.1**	ND	ND	ND	**7.3**	ND	NS	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**5.0**	**6.3**	**17.1**	**8.5**	**5.7**	ND	**7.0**	ND	**6.4**	ND	NS	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**5.1**	ND	**22.6**	**6.0**	ND	ND	ND	ND	**8.8**	ND	NS	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	ND	**8.7**	**24.4**	ND	ND	ND	ND	ND	**9.8**	ND	NS	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**5.6**	**7.2**	**19.7**	**16.7**	**10.9**	**6.0**	**5.1**	**14.0**	**6.0**	ND	NS	NP	NP	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**16.0**	ND	**32.7**	**19.8**	**7.7**	ND	ND	ND	**13.3**	ND	NS	NP	NP	ND
Total Zinc (Zn)	µg/l	10	1050	**23.1**	**43.5**	**99.9**	**25.3**	**17.9**	**17.6**	**10.5**	ND	**35.2**	ND	NS	NP	NP	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	ND	ND	**4.5**	ND	NS	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NP	NP	ND

Notes:

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

MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**5.88**	**6.35**	**6.0**	**5.76**	**5.78**	**5.95**	NS	NS	NS	**5.32**	**5.30**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**29**	**50**	**37.0**	**127**	**1532**	**1120**	NS	NS	NS	**637**	**39**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**13.4**	**13.2**	**14.4**	**14.6**	**14.7**	**15.9**	NS	NS	NS	**14.5**	**15.3**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NS	NS	NS	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	**6.0**	ND	NS	NS	NS	ND	ND	NP	NP	ND
Total Barium (Ba)	µg/l	5	2000	**131**	**16.8**	**144**	**188**	**1720**	**987**	NS	NS	NS	**209**	**178**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	**1.7**	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**10.0**	ND	**8.1**	ND	**18.7**	ND	NS	NS	NS	**10.9**	**8.1**	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	**6.0**	ND	NS	NS	NS	ND	**6.0**	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**5.8**	ND	ND	ND	**6.4**	ND	NS	NS	NS	ND	**7.1**	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	**24.7**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**6.7**	ND	**5.2**	**6.0**	**18.0**	**7.5**	NS	NS	NS	**6.0**	**8.4**	NP	NP	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**17.9**	ND	ND	**5.3**	**33.6**	ND	NS	NS	NS	**12.2**	**11.9**	NP	NP	ND
Total Zinc (Zn)	µg/l	10	1050	**19.6**	ND	**14.8**	ND	**37.8**	ND	NS	NS	NS	ND	**63.8**	NP	NP	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	NP	NP	ND

Notes:

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MDL = Laboratory Method Detection Limit

ND = Not Detected at the method detection limit

NS = Not Sampled

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Shaded cells indicated exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.05**	**6.54**	**6.33**	**6.06**	**5.90**	**5.94**	NS	NS	**7.04**	**5.50**	**5.69**	NP	NP	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**65**	**96**	**8.2**	**161**	**1987**	**1812**	NS	NS	**1727**	**659**	**83**	NP	NP	NT
Temperature	°C (on-site)	-	NE	**13.5**	**13.8**	**13.9**	**13.5**	**13.3**	**13.4**	NS	NS	**14.9**	**14.6**	**12.7**	NP	NP	NT
Turbidity	NTU (on-site)	NT	NE	NT	NT	NT	NT	NT	NT	NS	NS	NT	NT	NT	NP	NP	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	**7.4**	**9.8**	NS	NS	ND	ND	ND	NP	NP	ND
Total Barium (Ba)	µg/l	5	2000	**208**	**43.5**	**153**	**157**	**1920**	**1380**	NS	NS	**20.9**	**150**	**74.8**	NP	NP	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Chromium (Cr)	µg/l	5	50	**14.3**	**10.9**	**13.1**	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Cobalt (Co)	µg/l	5	NE	**5.6**	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Copper (Cu)	µg/l	5	1000	**9.9**	ND	ND	ND	ND	**5.9**	NS	NS	ND	ND	ND	NP	NP	ND
Total Lead (Pb)	µg/l	5	15	ND	**10.5**	ND	ND	ND	ND	NS	NS	ND	ND	**9.2**	NP	NP	ND
Total Nickel (Ni)	µg/l	5	100	**8.6**	**9.6**	**7.6**	ND	**6.2**	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Selenium (Se)	µg/l	10	50	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Silver (Ag)	µg/l	5	17.5	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Vanadium (V)	µg/l	5	NE	**27.9**	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Total Zinc (Zn)	µg/l	10	1050	**22.2**	**14.2**	ND	ND	ND	ND	NS	NS	ND	ND	**24.6**	NP	NP	ND
Acetone	µg/l	25	700	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Benzene	µg/l	1	1	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Bromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Bromodichloromethane	µg/l	1	0.56	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Bromoform	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Bromomethane (Methylbromide)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Carbon tetrachloride	µg/l	1	0.269	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Chlorobenzene (mono)	µg/l	1	50	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Chloroethane	µg/l	1	2800	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Chloroform	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Chloromethane (Methylchloride)	µg/l	1	2.6	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	3	0.025	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,2-Dichlorobenzene	µg/l	1	24	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,4-Dichlorobenzene	µg/l	1	1.4	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,1-Dichloroethane	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,2-Dichloroethane	µg/l	1	0.38	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,1-Dichloroethene (-ethylene)	µg/l	1	7	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
trans-1,2-Dichloroethene (-ylene)	µg/l	1	100	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,2-Dichloropropane	µg/l	1	0.51	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Ethylbenzene	µg/l	1	550	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
2-Hexanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Dichloromethane (Methylene chloride)	µg/l	2	4.6	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4200	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Styrene	µg/l	1	100	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,1,2,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Tetrachloroethene (-ethylene)	µg/l	1	0.7	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Toluene	µg/l	1	1000	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,1,1-Trichloroethane	µg/l	1	200	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Trichloroethene (-ethylene)	µg/l	1	2.8	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Trichlorofluoromethane	µg/l	1	2100	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
1,2,3-Trichloropropane	µg/l	1	0.005	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Vinyl chloride	µg/l	1	0.015	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND
Xylenes	µg/l	2	530	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	NP	NP	ND

Notes:

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White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-27-2010)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3R	MW-3DR	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**5.33**	**6.38**	**6.06**	**5.69**	**5.72**	**5.96**	**5.43**	**5.65**	**7.36**	**5.29**	**5.44**	**5.65**	**5.82**	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**35**	**52**	**54**	**113**	**189**	**177**	**418**	**317**	**140**	**772**	**46**	**221**	**90**	NT
Temperature	°C (on-site)	-	NE	**13.7**	**14.1**	**14.1**	**13.9**	**13.9**	**14.7**	**15.2**	**15.0**	**15.7**	**14.7**	**16.5**	**15.9**	**15.0**	NT
Turbidity	NTU (on-site)	NT	NE	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
Total Arsenic (As)	µg/l	5	50	ND	ND	ND	ND	**5.4**	**5.9**	ND	ND	ND	ND	ND	ND	ND	ND
Total Barium (Ba)	µg/l	5	2000	**147**	**15.8**	**162**	**178**	**1760**	**1550**	**531**	**234**	**20.0**	**190**	**111**	**191**	**84.4**	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	1.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	5	50	**10.1**	ND	**6.6**	**7.1**	ND	ND	**12.0**	**9.2**	ND	ND	**5.2**	ND	ND	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**17.3**	**5.6**	ND	ND	**7.8**	**29.6**	ND	ND
Total Copper (Cu)	µg/l	5	1000	**6.7**	ND	ND	ND	ND	ND	ND	**12.4**	ND	ND	**53.9**	ND	ND	ND
Total Lead (Pb)	µg/l	5	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**16.0**	ND	ND	ND
Total Nickel (Ni)	µg/l	5	100	**7.0**	ND	ND	ND	**7.4**	ND	**21.5**	**19.0**	ND	ND	**7.5**	**10.8**	ND	ND
Total Selenium (Se)	µg/l	10	50	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
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	**17.4**	ND	ND	**6.9**	ND	ND	**14.2**	**7.1**	ND	ND	**5.9**	ND	ND	ND
Total Zinc (Zn)	µg/l	10	1050	**19.1**	ND	**12.3**	**15.0**	ND	ND	**32.4**	**16.3**	ND	ND	**60.7**	ND	ND	ND
Acetone	µg/l	25	700	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
Benzene	µg/l	1	1	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
Bromodichloromethane	µg/l	1	0.56	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
Carbon Disulfide	µg/l	2	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane (Methylbromide)	µg/l	2	NE	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
Chlorobenzene (mono)	µg/l	1	50	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
Chloroform	µg/l	1	70	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
Dibromochloromethane	µg/l	1	NE	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
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.00047	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
1,2-Dichlorobenzene	µg/l	1	24	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
trans-1,4-Dichloro-2-butene	µg/l	1	NE	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
1,2-Dichloroethane	µg/l	1	0.38	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
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	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
1,2-Dichloropropane	µg/l	1	0.51	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
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.19	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
2-Hexanone	µg/l	5	NE	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
Dichloromethane (Methylene chloride)	µg/l	2	4.6	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
4-Methyl-2-Pentanone	µg/l	5	NE	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
1,1,1,2-Tetrachloroethane	µg/l	1	NE	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
Tetrachloroethene (-ethylene)	µg/l	1	0.7	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
1,1,1-Trichloroethane	µg/l	1	200	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
Trichloroethene (-ethylene)	µg/l	1	2.8	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
1,2,3-Trichloropropane	µg/l	1	0.005	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
Vinyl chloride	µg/l	1	0.015	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

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 indicate exceedance of MCLs.

White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (4-29-2011)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3R	MW-3DR	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.00**	**6.50**	**6.50**	**6.10**	**5.80**	**6.00**	**5.60**	**5.60**	**6.20**	**5.40**	**5.70**	**5.60**	**5.60**	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**29**	**50**	**53**	**127**	**1770**	**1593**	**491**	**290**	**135**	**762**	**90**	**197**	**125**	NT
Temperature	°C (on-site)	-	NE	**14.3**	**14.6**	**13.7**	**13.2**	**14.5**	**14.7**	**15.3**	**14.5**	**14.8**	**14.4**	**13.2**	**15.2**	**14.8**	NT
Turbidity	NTU (on-site)	NT	NE	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
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Barium (Ba)	µg/l	5	700	**191**	**16.3**	**188**	**182**	**1620**	**1390**	**428**	**173**	**13.6**	**196**	**125**	**201**	**133.0**	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.1**	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	5	10	**8.0**	ND	**8.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Cobalt (Co)	µg/l	5	NE	ND	ND	ND	ND	**6.9**	ND	**8.9**	ND	ND	ND	ND	**26.3**	ND	ND
Total Copper (Cu)	µg/l	5	1000	**6.4**	ND	ND	ND	**6.7**	**6.1**	ND	ND	ND	ND	**5.2**	ND	ND	ND
Total Lead (Pb)	µg/l	5	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**11.0**	ND	ND	ND
Total Nickel (Ni)	µg/l	5	100	ND	ND	ND	ND	**10.5**	**8.6**	**19.5**	**15.2**	ND	ND	ND	**10.3**	ND	ND
Total Selenium (Se)	µg/l	10	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	**15.8**	ND	**5.1**	ND	ND	ND	ND	ND	ND	ND	**5.5**	**7.3**	ND	ND
Total Zinc (Zn)	µg/l	10	1000	**25.7**	ND	**21.9**	ND	**11.8**	**23.9**	**13.7**	ND	ND	ND	**42.9**	**20.5**	**21.5**	ND
Acetone	µg/l	25	6000	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
Benzene	µg/l	1	1	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
Bromodichloromethane	µg/l	1	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	1	4	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
Bromomethane (Methylbromide)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	1	0.3	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
Chloroethane	µg/l	1	3000	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
Chloromethane (Methylchloride)	µg/l	1	3	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
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.02	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
1,2-Dichlorobenzene	µg/l	1	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	1	6	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
1,1-Dichloroethane	µg/l	1	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	1	0.4	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
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	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
1,2-Dichloropropane	µg/l	1	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	600	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
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4000	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
Styrene	µg/l	1	70	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
1,1,2,2-Tetrachloroethane	µg/l	1	NE	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
Toluene	µg/l	1	600	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
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	1	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	2000	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
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	1	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	µg/l	2	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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White Oak Landfill - Haywood Co., NC
Groundwater Sampling Event (10-25-2011)

TEST	UNITS	MDL	MCL	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3R	MW-3DR	MW-4A	MW-8	MW-15	MW-16	MW-17	EQUIP. BLANK
pH	pH units (on-site)	-	NE	**6.50**	**6.20**	**6.40**	**6.10**	**5.60**	**5.40**	**5.40**	**5.30**	**7.00**	**5.20**	**5.60**	**5.60**	**5.80**	NT
Specific Conductance	µmhos/cm (on-site)	1	NE	**32**	**47**	**46**	**108**	**1275**	**1450**	**395**	**297**	**137**	**802**	**52**	**245**	**145**	NT
Temperature	°C (on-site)	-	NE	**14.2**	**13.5**	**15.3**	**12.4**	**13.2**	**13.7**	**15.8**	**15.1**	**15.7**	**16.2**	**16.9**	**16.3**	**15.6**	NT
Turbidity	NTU (on-site)	NT	NE	**96.5**	**8.09**	**17.7**	**9.06**	**9.22**	**1.78**	**8.72**	**5.24**	**1.91**	**80.5**	**154.0**	**4.62**	**1.77**	NT
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Barium (Ba)	µg/l	5	700	**185**	**19.7**	**120**	**332**	**1200**	**1300**	**945**	**205**	**8.2**	**238**	**123**	**161**	**154**	ND
Total Beryllium (Be)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.6**	ND	ND	ND
Total Cadmium (Cd)	µg/l	1	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chromium (Cr)	µg/l	5	10	**15.0**	ND	ND	**21.1**	ND	ND	**8.1**	ND	ND	**9.2**	**5.1**	ND	ND	ND
Total Cobalt (Co)	µg/l	5	NE	**5.3**	ND	ND	**6.4**	**6.3**	ND	**21.0**	ND	ND	ND	ND	**42.4**	ND	ND
Total Copper (Cu)	µg/l	5	1000	**9.6**	ND	ND	**9.4**	**6.8**	**11.2**	**7.6**	ND	ND	**5.1**	**6.9**	ND	ND	ND
Total Lead (Pb)	µg/l	5	15	ND	ND	ND	ND	ND	ND	**6.3**	ND	ND	ND	**14.6**	ND	ND	ND
Total Nickel (Ni)	µg/l	5	100	**6.9**	ND	ND	**14.7**	**8.8**	**7.5**	**20.8**	**19.9**	ND	ND	ND	**8.0**	ND	ND
Total Selenium (Se)	µg/l	10	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Silver (Ag)	µg/l	5	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Vanadium (V)	µg/l	5	NE	**25.6**	ND	ND	**23.0**	ND	ND	**15.1**	ND	ND	**9.7**	**6.3**	ND	ND	ND
Total Zinc (Zn)	µg/l	10	1000	**34.5**	ND	**11.6**	**23.7**	**12.8**	**10.1**	**32.5**	ND	ND	**17.7**	**49.9**	**15.1**	ND	ND
Acetone	µg/l	25	6000	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
Benzene	µg/l	1	1	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
Bromodichloromethane	µg/l	1	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	µg/l	1	4	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
Bromomethane (Methylbromide)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	µg/l	1	0.3	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
Chloroethane	µg/l	1	3000	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
Chloromethane (Methylchloride)	µg/l	1	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	0.02	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
1,2-Dichlorobenzene	µg/l	1	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/l	1	6	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
1,1-Dichloroethane	µg/l	1	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	µg/l	1	0.4	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
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	70	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
1,2-Dichloropropane	µg/l	1	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene (-propylene)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene (-propylene)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/l	1	600	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
Iodomethane	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene chloride)	µg/l	2	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (Methyl ethyl ketone)	µg/l	5	4000	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
Styrene	µg/l	1	70	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
1,1,2,2-Tetrachloroethane	µg/l	1	0.2	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
Toluene	µg/l	1	600	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
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene (-ethylene)	µg/l	1	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	µg/l	1	2000	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
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	µg/l	1	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	µg/l	2	500	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 indicate exceedance of MCLs.

APPENDIX B

SUMMARY TABLE OF SURFACE WATER ANALYTICAL RESULTS

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

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

Notes:

MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicate exceedances of MCLs.

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

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

Notes:

MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicate exceedances of MCLs.

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

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

Notes:

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Shaded cells indicate exceedances of MCLs.

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

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

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

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

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Shaded cells indicate exceedances of MCLs.

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

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

Notes:

MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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NP = Not Present during sampling event

Shaded cells indicate exceedances of MCLs.

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

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

Notes:

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

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Shaded cells indicate exceedances of MCLs.

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

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

Notes:

MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicate exceedances of MCLs.

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

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

Notes:

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

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

Notes:

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ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicate exceedances of MCLs.

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

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

Notes:

MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters and Wetlands Standards Section 15A NCAC 02B.0100, .0200, and .0300.

ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicate exceedances of MCLs.

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

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

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Shaded cells indicate exceedances of MCLs.

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

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

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

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

Notes:

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ND = Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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Shaded cells indicate exceedances of MCLs.

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

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

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

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

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

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

Notes:

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= Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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Shaded cells indicate exceedances of MCLs.

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

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

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

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

Notes:

MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters a Wetlands Standards Section 15A NCAC 02B.0100, .0200, a .0300.

= Not Detected at the method detection limit

NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicate exceedances of MCLs.

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

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

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NS = Not Sampled

NT = Not Tested

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

NP = Not Present during sampling event

Shaded cells indicate exceedances of MCLs.

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

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.31**	**6.14**	**7.15**	**6.11**	**5.7**	**6.39**	**7.31**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**203**	**250**	**287**	**158**	**50**	**53**	**20400**	NS
Temperature	°C (on-site)	-	29	**15.8**	**15.2**	**16.6**	**17.5**	**14.7**	**13.4**	**18.2**	NS
Turbidity	NTU (on-site)	NT	50	NT	NT	NT	NT	NT	NT	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**5.5**	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**6**	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.51**	NS
Nitrogen	mg/l	0.1	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	75	NE	NT	NT	NT	NT	NT	NT	**7670**	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**40**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NT	NT	**96**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**13.9**	NS
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	ND	ND	ND	**29.4**	NS
Total Barium (Ba)	µg/l	5	NE	**209**	**180**	**350**	**126**	**40.1**	**32.9**	**172**	NS
Total Beryllium (Be)	µg/l	1	6.5	ND	ND	ND	ND	ND	ND	**1.3**	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	NS
Total Chromium (Cr)	µg/l	5	50	ND	ND	**13.2**	ND	ND	ND	**10.7**	NS
Total Cobalt (Co)	µg/l	5	NE	ND	ND	**17.7**	**48.8**	ND	ND	ND	NS
Total Copper (Cu)	µg/l	5	7	ND	ND	**9**	ND	ND	ND	ND	NS
Total Lead (Pb)	µg/l	5	25	ND	ND	ND	ND	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	5	88	ND	ND	**9**	**5**	ND	ND	**44.4**	NS
Total Selenium (Se)	µg/l	10	5	ND	ND	ND	ND	ND	ND	**29.6**	NS
Total Silver (Ag)	µg/l	5	0.06	ND	ND	ND	ND	ND	ND	ND	NS
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Vanadium (V)	µg/l	5	NE	ND	ND	**27.9**	ND	ND	ND	**21**	NS
Total Zinc (Zn)	µg/l	10	50	ND	**31.2**	**60.6**	ND	ND	ND	ND	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	ND	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	NT	NS
Benzene	µg/l	1	51	ND	ND	ND	ND	ND	ND	**1**	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	NT	NS
Bromomethane (Methylbromide)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon tetrachloride	µg/l	1	1.6	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloromethane (Methylchloride)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**3.4**	NS
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NT	NS
1,1-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**1.2**	NS
trans-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**6.8**	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	NT	NS
Dichloromethane (Methylene chloride)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Styrene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2,2-Tetrachloroethane	µg/l	1	4	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	1	3.3	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	1	0.36	ND	ND	ND	ND	ND	ND	**8.4**	NS
1,1,1-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Trichloroethene (-ethylene)	µg/l	1	30	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2,3-Trichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl chloride	µg/l	1	2.4	ND	ND	ND	ND	ND	ND	ND	NS
Xylenes	µg/l	2	NE	ND	ND	ND	ND	ND	ND	NT	NS
m&p-Xylenes	µg/l	2	NE	ND	ND	ND	ND	ND	ND	**10.9**	NS
o-Xylenes	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**5.7**	NS
Methyl-tert-butyl-ether (MTBE)	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**2.9**	NS
Naphthalene	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**6.5**	NS
p-isopropyltoluene	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**2.9**	NS
Phosphorus	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**1.40**	NS

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White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (4-28-11)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.3**	**6.2**	**6.8**	**6**	**5.8**	**6.1**	**7.4**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**174**	**225**	**304**	**212**	**45**	**65**	**14,320**	NS
Temperature	°C (on-site)	-	29	**15.9**	**14.9**	**18.5**	**13.5**	**15.1**	**13.3**	**18.3**	NS
Turbidity	NTU (on-site)	NT	50	NT	NT	NT	NT	NT	NT	NT	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**8.5**	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**9.6**	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**1.1**	NS
Nitrogen	mg/l	0.1	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	75	NE	NT	NT	NT	NT	NT	NT	**4360**	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**55.2**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NT	NT	**762**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	ND	ND	ND	**13.5**	NS
Total Barium (Ba)	µg/l	5	NE	**238**	**204**	**130**	**156**	**38.7**	**43.6**	**243**	NS
Total Beryllium (Be)	µg/l	1	6.5	ND	ND	ND	ND	ND	ND	ND	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	NS
Total Chromium (Cr)	µg/l	5	50	**5.2**	ND	ND	ND	ND	ND	**27.1**	NS
Total Cobalt (Co)	µg/l	5	NE	ND	**5.4**	ND	**22.6**	ND	ND	**32.6**	NS
Total Copper (Cu)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	NS
Total Lead (Pb)	µg/l	5	25	ND	ND	ND	ND	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	5	88	ND	ND	ND	ND	ND	ND	**159**	NS
Total Selenium (Se)	µg/l	10	5	ND	ND	ND	ND	ND	ND	ND	NS
Total Silver (Ag)	µg/l	5	0.06	ND	ND	ND	ND	ND	ND	ND	NS
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Vanadium (V)	µg/l	5	NE	**11**	ND	ND	ND	ND	ND	**9.4**	NS
Total Zinc (Zn)	µg/l	10	50	**15.8**	**46.1**	**61.7**	ND	ND	ND	**32.1**	NS
Mercury	µg/l	0.2	0.012	NT	NT	NT	ND	NT	NT	NT	NS
Acetone	µg/l	25	NE	ND	ND	ND	ND	ND	ND	**40.6**	NS
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	NT	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	NT	NS
Bromomethane (Methylbromide)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon tetrachloride	µg/l	1	1.6	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloromethane (Methylchloride)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**2.7**	NS
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NT	NS
1,1-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**6**	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	NT	NS
Dichloromethane (Methylene chloride)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Styrene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**1.2**	NS
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2,2-Tetrachloroethane	µg/l	1	4	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	1	3.3	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	1	0.36	ND	ND	ND	ND	ND	ND	**4.5**	NS
1,1,1-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	*ND*	NS
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Trichloroethene (-ethylene)	µg/l	1	30	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2,3-Trichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl chloride	µg/l	1	2.4	ND	ND	ND	ND	ND	ND	ND	NS
Xylenes	µg/l	2	NE	ND	ND	ND	ND	ND	ND	NT	NS
m&p-Xylenes	µg/l	2	NE	ND	ND	ND	ND	ND	ND	**3.5**	NS
o-Xylenes	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**3.8**	NS
Methyl-tert-butyl-ether (MTBE)	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**1.6**	NS
Naphthalene	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**5.3**	NS
p-isopropyltoluene	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**1.8**	NS
Phosphorus	mg/l	0.05	NE	NT	NT	NT	NT	NT	NT	**0.85**	NS

Notes:

MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters a Wetlands Standards Section 15A NCAC 02B.0100, .0200, a .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

Shaded cells indicate exceedances of MCLs.

White Oak Landfill - Haywood Co., NC
Surface Water Sampling Event (10-25-11)

TEST	UNITS	MDL	MCL	SW-1	SW-2	SW-3	SW-5	SW-6	SW-7	Leachate	Settling
pH	pH units (on-site)	-	<6.0; >9.0	**6.2**	**6.7**	**7.2**	**6**	**5.7**	**6.2**	**6.9**	NS
Specific Conductance	µmhos/cm (on-site)	1	NE	**207**	**208**	**275**	**241**	**42**	**17**	**272**	NS
Temperature	°C (on-site)	-	29	**10.4**	**11.9**	**11.7**	**17.2**	**15.8**	**13**	**11.7**	NS
Turbidity	NTU (on-site)	NT	50	**7.92**	**19.0**	**8.08**	**15.5**	**5.52**	**6.19**	**6.35**	NS
Nitrate as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.85**	NS
Nitrate/Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	NT	NS
Nitrite as N	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**0.17**	NS
Nitrogen	mg/l	0.1	NE	NT	NT	NT	NT	NT	NT	**1**	NS
Total Nitrogen, Kjeldahl	mg/l	100	NE	NT	NT	NT	NT	NT	NT	NT	NS
Sulfate	mg/l	75	NE	NT	NT	NT	NT	NT	NT	**5170**	NS
Biochemical Oxygen Demand	mg/l	2	NE	NT	NT	NT	NT	NT	NT	**63.9**	NS
Chemical Oxygen Demand	mg/l	25	NE	NT	NT	NT	NT	NT	NT	**908**	NS
Total Dissolved Solids	mg/l	20	NE	NT	NT	NT	NT	NT	NT	NT	NS
Cyanide	µg/l	2	5	NT	NT	NT	NT	NT	NT	NT	NS
Total Antimony (Sb)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Arsenic (As)	µg/l	5	10	ND	ND	ND	ND	ND	ND	**7.2**	NS
Total Barium (Ba)	µg/l	5	NE	**170**	**168**	**126**	**140**	**32.7**	**30.7**	**261**	NS
Total Beryllium (Be)	µg/l	1	6.5	ND	ND	ND	ND	ND	ND	ND	NS
Total Cadmium (Cd)	µg/l	1	0.4	ND	ND	ND	ND	ND	ND	ND	NS
Total Chromium (Cr)	µg/l	5	50	ND	ND	ND	ND	ND	ND	**35.4**	NS
Total Cobalt (Co)	µg/l	5	NE	ND	**5**	**5**	**28.8**	ND	ND	**19.7**	NS
Total Copper (Cu)	µg/l	5	7	ND	ND	ND	ND	ND	ND	ND	NS
Total Lead (Pb)	µg/l	5	25	ND	ND	ND	ND	ND	ND	ND	NS
Total Nickel (Ni)	µg/l	5	88	ND	ND	ND	ND	ND	ND	**170**	NS
Total Selenium (Se)	µg/l	10	5	ND	ND	ND	ND	ND	ND	ND	NS
Total Silver (Ag)	µg/l	5	0.06	ND	ND	ND	ND	ND	ND	ND	NS
Total Thallium (Tl)	µg/l	5.4	NE	ND	ND	ND	ND	ND	ND	ND	NS
Total Vanadium (V)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	**14.0**	NS
Total Zinc (Zn)	µg/l	10	50	ND	**33.6**	**56.1**	ND	ND	ND	**18.0**	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	**43.9**	NS
Acrylonitrile	µg/l	10	NE	ND	ND	ND	ND	ND	ND	NT	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	NT	NS
Bromomethane (Methylbromide)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
Carbon tetrachloride	µg/l	1	1.6	ND	ND	ND	ND	ND	ND	ND	NS
Chlorobenzene (mono)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloroform	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Chloromethane (Methylchloride)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromochloromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromo-3-chloropropane; DBCP	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dibromoethane; Ethylene dibromide	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Dibromomethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,4-Dichlorobenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,4-Dichloro-2-butene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	NT	NS
1,1-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,2-Dichloroethene (-ethylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2-Dichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
cis-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
trans-1,3-Dichloropropene (-propylene)	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**1.0**	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	NT	NS
Dichloromethane (Methylene chloride)	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
2-Butanone (Methyl ethyl ketone)	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
4-Methyl-2-Pentanone	µg/l	5	NE	ND	ND	ND	ND	ND	ND	ND	NS
Styrene	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1,2-Tetrachloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,1,2,2-Tetrachloroethane	µg/l	1	4	ND	ND	ND	ND	ND	ND	ND	NS
Tetrachloroethene (-ethylene)	µg/l	1	3.3	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	µg/l	1	0.36	ND	ND	ND	ND	ND	ND	**1.5**	NS
1,1,1-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	*ND*	NS
1,1,2-Trichloroethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Trichloroethene (-ethylene)	µg/l	1	30	ND	ND	ND	ND	ND	ND	ND	NS
Trichlorofluoromethane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
1,2,3-Trichloropropane	µg/l	1	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl acetate	µg/l	2	NE	ND	ND	ND	ND	ND	ND	ND	NS
Vinyl chloride	µg/l	1	2.4	ND	ND	ND	ND	ND	ND	ND	NS
Xylenes	µg/l	2	NE	ND	ND	ND	ND	ND	ND	NT	NS
m&p-Xylenes	µg/l	2	NE	ND	ND	ND	ND	ND	ND	**3.5**	NS
o-Xylenes	µg/l	1	NE	ND	ND	ND	ND	ND	ND	**2.3**	NS
Methyl-tert-butyl-ether (MTBE)	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**1.5**	NS
Naphthalene	µg/l	1	NE	NT	NT	NT	NT	NT	NT	**1.6**	NS
p-isopropyltoluene	µg/l	1	NE	NT	NT	NT	NT	NT	NT	ND	NS
Phosphorus	mg/l	0.05	NE	NT	NT	NT	NT	NT	NT	**1.20**	NS

Notes:

MCL = Maximum Contaminant Level, as established in the NCDENR, "Redbook" Surface Waters a Wetlands Standards
Section 15A NCAC 02B.0100, .0200, a .0300.

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NS = Not Sampled

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Shaded cells indicate exceedances of MCLs.

APPENDIX C

LABORATORY ANALYTICAL RESULTS

Pace Analytical®
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Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

November 15, 2011

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

RE: Project: WhiteOak LF
Pace Project No.: 92105069

Dear Mr. King:
Enclosed are the analytical results for sample(s) received by the laboratory on October 25, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

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

Sincerely,

Tom R. Williams

Tom Williams

tom.williams@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: WhiteOak LF
Pace Project No.: 92105069

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Drinking Water Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460144

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356
Virgina/VELAP Certification #: 460147

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SAMPLE ANALYTE COUNT

Project: WhiteOak LF
Pace Project No.: 92105069

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92105069001	MW-1		TRW	8	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069002	MW-2		TRW	8	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069003	MW-2D		TRW	8	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069004	MW-3R		TRW	8	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069005	MW-3DR		TRW	8	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069006	MW-4A		TRW	8	PASI-C
		EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069007	MW-8		TRW	8	PASI-C
		EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069008	MW-11S		TRW	8	PASI-C
		EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069009	MW-11D		TRW	8	PASI-C
		EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069010	MW-14		TRW	8	PASI-C
		EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069011	MW-15		TRW	8	PASI-C
		EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069012	MW-16		TRW	8	PASI-C
		EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069013	MW-17		TRW	8	PASI-C

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SAMPLE ANALYTE COUNT

Project: WhiteOak LF
Pace Project No.: 92105069

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069014	TVL BLK	EPA 8260	KJM	53	PASI-C
92105069015	EQUIP BLK	EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069016	SW-1		TRW	7	PASI-C
		EPA 6010	JDA, JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069017	SW-2		TRW	7	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	KJM	53	PASI-C
92105069018	SW-3		TRW	7	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	53	PASI-C
92105069019	SW-5		TRW	7	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	53	PASI-C
92105069020	SW-6		TRW	7	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	53	PASI-C
92105069021	SW-7		TRW	7	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	TLS	53	PASI-C
92105069022	LEACHATE		TRW	7	PASI-C
		EPA 6010	JMW	15	PASI-A
		EPA 8260	TLS	63	PASI-C
		SM 5210B	EWS	1	PASI-A
		EPA 300.0	SAJ	1	PASI-A
		EPA 353.2	DMN	3	PASI-A
		EPA 365.1	JDA	1	PASI-A
		SM 5220D	DMN	1	PASI-A

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-1 **Lab ID: 92105069001** Collected: 10/25/11 09:45 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 13:41		
Collected Date	**10/25/11**			1		11/08/11 13:41		
Collected Time	**09:45**			1		11/08/11 13:41		
Field pH	**6.1**	Std. Units		1		11/08/11 13:41		
Field Temperature	**12.4**	deg C		1		11/08/11 13:41		
Static Water Level	**19.5**	feet		1		11/08/11 13:41		
Field Specific Conductance	**108**	umhos/cm		1		11/08/11 13:41		
Turbidity	**9.06**	NTU		1		11/08/11 13:41		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7440-38-2	
Barium	**332**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:03	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:03	7440-43-9	
Chromium	**21.1**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7440-47-3	
Cobalt	**6.4**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7440-48-4	
Copper	**9.4**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7440-50-8	
Lead	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7439-92-1	
Nickel	**14.7**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:03	7782-49-2	
Silver	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/27/11 10:10	10/27/11 22:03	7440-28-0	
Vanadium	**23.0**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:03	7440-62-2	
Zinc	**23.7**	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:03	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 02:18	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 02:18	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 02:18	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 02:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 02:18	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 02:18	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 02:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 02:18	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 02:18	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 02:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 02:18	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 02:18	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 02:18	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 02:18	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 02:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 02:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 02:18	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 02:18	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 02:18	95-50-1	

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-1 **Lab ID: 92105069001** Collected: 10/25/11 09:45 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 02:18	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 02:18	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 02:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 02:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 02:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 02:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 02:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 02:18	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 02:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 02:18	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 02:18	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 02:18	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 02:18	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 02:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 02:18	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 02:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 02:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 02:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 02:18	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 02:18	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 02:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 02:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 02:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 02:18	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 02:18	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 02:18	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 02:18	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 02:18	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 02:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 02:18	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		10/31/11 02:18	460-00-4	
Dibromofluoromethane (S)	112	%	70-130	1		10/31/11 02:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		10/31/11 02:18	17060-07-0	
Toluene-d8 (S)	96	%	70-130	1		10/31/11 02:18	2037-26-5	

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Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-2 **Lab ID: 92105069002** Collected: 10/25/11 10:00 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 13:44		
Collected Date	**10/25/11**			1		11/08/11 13:44		
Collected Time	**10:00**			1		11/08/11 13:44		
Field pH	**5.6**	Std. Units		1		11/08/11 13:44		
Field Temperature	**13.2**	deg C		1		11/08/11 13:44		
Static Water Level	**30.87**	feet		1		11/08/11 13:44		
Field Specific Conductance	**1275**	umhos/cm		1		11/08/11 13:44		
Turbidity	**9.22**	NTU		1		11/08/11 13:44		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7440-38-2	
Barium	**1200**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:07	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:07	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7440-47-3	
Cobalt	**6.3**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7440-48-4	
Copper	**6.8**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7440-50-8	
Lead	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7439-92-1	
Nickel	**8.8**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:07	7782-49-2	
Silver	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/27/11 10:10	10/27/11 22:07	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:07	7440-62-2	
Zinc	**12.8**	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:07	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 02:43	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 02:43	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 02:43	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 02:43	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 02:43	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 02:43	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 02:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 02:43	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 02:43	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 02:43	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 02:43	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 02:43	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 02:43	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 02:43	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 02:43	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 02:43	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 02:43	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 02:43	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 02:43	95-50-1	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-2 **Lab ID: 92105069002** Collected: 10/25/11 10:00 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 02:43	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 02:43	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 02:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 02:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 02:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 02:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 02:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 02:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 02:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 02:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 02:43	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 02:43	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 02:43	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 02:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 02:43	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 02:43	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 02:43	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 02:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 02:43	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 02:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 02:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 02:43	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 02:43	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 02:43	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 02:43	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 02:43	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 02:43	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 02:43	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 02:43	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 02:43	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		10/31/11 02:43	460-00-4	
Dibromofluoromethane (S)	115	%	70-130	1		10/31/11 02:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	70-130	1		10/31/11 02:43	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		10/31/11 02:43	2037-26-5	

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ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-2D **Lab ID: 92105069003** Collected: 10/25/11 10:15 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 13:45		
Collected Date	**10/25/11**			1		11/08/11 13:45		
Collected Time	**10:15**			1		11/08/11 13:45		
Field pH	**5.4**	Std. Units		1		11/08/11 13:45		
Field Temperature	**13.7**	deg C		1		11/08/11 13:45		
Static Water Level	**30.60**	feet		1		11/08/11 13:45		
Field Specific Conductance	**1450**	umhos/cm		1		11/08/11 13:45		
Turbidity	**1.78**	NTU		1		11/08/11 13:45		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7440-38-2	
Barium	**1300**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:11	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:11	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7440-48-4	
Copper	**11.2**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7440-50-8	
Lead	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7439-92-1	
Nickel	**7.5**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:11	7782-49-2	
Silver	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/27/11 10:10	10/27/11 22:11	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:11	7440-62-2	
Zinc	**10.1**	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:11	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 03:09	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 03:09	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 03:09	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 03:09	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 03:09	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 03:09	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 03:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 03:09	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 03:09	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 03:09	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 03:09	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 03:09	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 03:09	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 03:09	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 03:09	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 03:09	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 03:09	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 03:09	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 03:09	95-50-1	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-2D **Lab ID: 92105069003** Collected: 10/25/11 10:15 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 03:09	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 03:09	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 03:09	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 03:09	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 03:09	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 03:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 03:09	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 03:09	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 03:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 03:09	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 03:09	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 03:09	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 03:09	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 03:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 03:09	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 03:09	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 03:09	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 03:09	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 03:09	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 03:09	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 03:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 03:09	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 03:09	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 03:09	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 03:09	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 03:09	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 03:09	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 03:09	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 03:09	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 03:09	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		10/31/11 03:09	460-00-4	
Dibromofluoromethane (S)	116	%	70-130	1		10/31/11 03:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	70-130	1		10/31/11 03:09	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		10/31/11 03:09	2037-26-5	

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(828)254-7176

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(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-3R **Lab ID: 92105069004** Collected: 10/25/11 11:45 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 13:49		
Collected Date	**10/25/11**			1		11/08/11 13:49		
Collected Time	**11:45**			1		11/08/11 13:49		
Field pH	**5.4**	Std. Units		1		11/08/11 13:49		
Field Temperature	**15.8**	deg C		1		11/08/11 13:49		
Static Water Level	**34.24**	feet		1		11/08/11 13:49		
Field Specific Conductance	**395**	umhos/cm		1		11/08/11 13:49		
Turbidity	**8.72**	NTU		1		11/08/11 13:49		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7440-38-2	
Barium	**945**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:15	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:15	7440-43-9	
Chromium	**8.1**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7440-47-3	
Cobalt	**21.0**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7440-48-4	
Copper	**7.6**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7440-50-8	
Lead	**6.3**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7439-92-1	
Nickel	**20.8**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:15	7782-49-2	
Silver	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/27/11 10:10	10/27/11 22:15	7440-28-0	
Vanadium	**15.1**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:15	7440-62-2	
Zinc	**32.5**	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:15	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 03:34	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 03:34	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 03:34	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 03:34	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 03:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 03:34	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 03:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 03:34	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 03:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 03:34	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 03:34	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 03:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 03:34	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 03:34	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 03:34	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 03:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 03:34	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 03:34	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 03:34	95-50-1	

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-3R **Lab ID: 92105069004** Collected: 10/25/11 11:45 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 03:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 03:34	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 03:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 03:34	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 03:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 03:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 03:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 03:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 03:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 03:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 03:34	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 03:34	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 03:34	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 03:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 03:34	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 03:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 03:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 03:34	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 03:34	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 03:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 03:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 03:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 03:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 03:34	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 03:34	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 03:34	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 03:34	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 03:34	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 03:34	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 03:34	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		10/31/11 03:34	460-00-4	
Dibromofluoromethane (S)	119	%	70-130	1		10/31/11 03:34	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	70-130	1		10/31/11 03:34	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 03:34	2037-26-5	

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ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-3DR **Lab ID: 92105069005** Collected: 10/25/11 11:55 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 13:52		
Collected Date	**10/25/11**			1		11/08/11 13:52		
Collected Time	**11:55**			1		11/08/11 13:52		
Field pH	**5.3**	Std. Units		1		11/08/11 13:52		
Field Temperature	**15.1**	deg C		1		11/08/11 13:52		
Static Water Level	**38.24**	feet		1		11/08/11 13:52		
Field Specific Conductance	**297**	umhos/cm		1		11/08/11 13:52		
Turbidity	**5.24**	NTU		1		11/08/11 13:52		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7440-38-2	
Barium	**205**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:19	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/27/11 10:10	10/27/11 22:19	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7440-48-4	
Copper	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7440-50-8	
Lead	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7439-92-1	
Nickel	**19.9**	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:19	7782-49-2	
Silver	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/27/11 10:10	10/27/11 22:19	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/27/11 10:10	10/27/11 22:19	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/27/11 10:10	10/27/11 22:19	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 04:00	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 04:00	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 04:00	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 04:00	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 04:00	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 04:00	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 04:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 04:00	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 04:00	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 04:00	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 04:00	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 04:00	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 04:00	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 04:00	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 04:00	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 04:00	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 04:00	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 04:00	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 04:00	95-50-1	

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-3DR **Lab ID: 92105069005** Collected: 10/25/11 11:55 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 04:00	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 04:00	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 04:00	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 04:00	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 04:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 04:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 04:00	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 04:00	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 04:00	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 04:00	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 04:00	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 04:00	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 04:00	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 04:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 04:00	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 04:00	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 04:00	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 04:00	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 04:00	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 04:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 04:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 04:00	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 04:00	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 04:00	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 04:00	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 04:00	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 04:00	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 04:00	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 04:00	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 04:00	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		10/31/11 04:00	460-00-4	
Dibromofluoromethane (S)	121	%	70-130	1		10/31/11 04:00	1868-53-7	
1,2-Dichloroethane-d4 (S)	114	%	70-130	1		10/31/11 04:00	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		10/31/11 04:00	2037-26-5	

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-4A **Lab ID: 92105069006** Collected: 10/25/11 13:55 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 13:54		
Collected Date	**10/25/11**			1		11/08/11 13:54		
Collected Time	**13:35**			1		11/08/11 13:54		
Field pH	**7.0**	Std. Units		1		11/08/11 13:54		
Field Temperature	**15.7**	deg C		1		11/08/11 13:54		
Static Water Level	**46.33**	feet		1		11/08/11 13:54		
Field Specific Conductance	**137**	umhos/cm		1		11/08/11 13:54		
Turbidity	**1.91**	NTU		1		11/08/11 13:54		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:12	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:12	7440-38-2	
Barium	**8.2**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:12	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:12	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:12	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:12	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:12	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 17:49	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:12	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:12	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:12	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:12	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 02:12	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:12	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:12	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 04:25	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 04:25	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 04:25	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 04:25	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 04:25	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 04:25	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 04:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 04:25	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 04:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 04:25	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 04:25	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 04:25	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 04:25	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 04:25	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 04:25	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 04:25	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 04:25	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 04:25	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 04:25	95-50-1	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-4A **Lab ID: 92105069006** Collected: 10/25/11 13:55 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 04:25	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 04:25	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 04:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 04:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 04:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 04:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 04:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 04:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 04:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 04:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 04:25	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 04:25	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 04:25	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 04:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 04:25	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 04:25	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 04:25	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 04:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 04:25	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 04:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 04:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 04:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 04:25	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 04:25	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 04:25	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 04:25	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 04:25	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 04:25	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 04:25	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 04:25	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		10/31/11 04:25	460-00-4	
Dibromofluoromethane (S)	123	%	70-130	1		10/31/11 04:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	116	%	70-130	1		10/31/11 04:25	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 04:25	2037-26-5	

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-8 **Lab ID: 92105069007** Collected: 10/25/11 13:50 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:27		
Collected Date	**10/25/11**			1		11/08/11 14:27		
Collected Time	**13:50**			1		11/08/11 14:27		
Field pH	**5.2**	Std. Units		1		11/08/11 14:27		
Field Temperature	**16.2**	deg C		1		11/08/11 14:27		
Static Water Level	**31.23**	feet		1		11/08/11 14:27		
Field Specific Conductance	**802**	umhos/cm		1		11/08/11 14:27		
Turbidity	**80.5**	NTU		1		11/08/11 14:27		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:15	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:15	7440-38-2	
Barium	**238**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:15	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:15	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:15	7440-43-9	
Chromium	**9.2**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:15	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:15	7440-48-4	
Copper	**5.1**	ug/L	5.0	1	10/28/11 12:30	10/29/11 17:52	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:15	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:15	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:15	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:15	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 02:15	7440-28-0	
Vanadium	**9.7**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:15	7440-62-2	
Zinc	**17.7**	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:15	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 04:50	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 04:50	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 04:50	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 04:50	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 04:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 04:50	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 04:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 04:50	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 04:50	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 04:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 04:50	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 04:50	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 04:50	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 04:50	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 04:50	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 04:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 04:50	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 04:50	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 04:50	95-50-1	

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(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-8 **Lab ID: 92105069007** Collected: 10/25/11 13:50 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 04:50	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 04:50	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 04:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 04:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 04:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 04:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 04:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 04:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 04:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 04:50	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 04:50	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 04:50	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 04:50	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 04:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 04:50	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 04:50	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 04:50	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 04:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 04:50	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 04:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 04:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 04:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 04:50	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 04:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 04:50	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 04:50	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 04:50	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 04:50	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 04:50	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 04:50	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		10/31/11 04:50	460-00-4	
Dibromofluoromethane (S)	123	%	70-130	1		10/31/11 04:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	116	%	70-130	1		10/31/11 04:50	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 04:50	2037-26-5	

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ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-11S **Lab ID: 92105069008** Collected: 10/25/11 14:10 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:30		
Collected Date	**10/25/11**			1		11/08/11 14:30		
Collected Time	**14:10**			1		11/08/11 14:30		
Field pH	**6.5**	Std. Units		1		11/08/11 14:30		
Field Temperature	**14.2**	deg C		1		11/08/11 14:30		
Static Water Level	**82.39**	feet		1		11/08/11 14:30		
Field Specific Conductance	**32**	umhos/cm		1		11/08/11 14:30		
Turbidity	**96.5**	NTU		1		11/08/11 14:30		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:19	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:19	7440-38-2	
Barium	**185**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:19	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:19	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:19	7440-43-9	
Chromium	**15.0**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:19	7440-47-3	
Cobalt	**5.3**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:19	7440-48-4	
Copper	**9.6**	ug/L	5.0	1	10/28/11 12:30	10/29/11 17:57	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:19	7439-92-1	
Nickel	**6.9**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:19	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:19	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:19	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 02:19	7440-28-0	
Vanadium	**25.6**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:19	7440-62-2	
Zinc	**34.5**	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:19	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 05:16	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 05:16	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 05:16	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 05:16	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 05:16	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 05:16	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 05:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 05:16	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 05:16	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 05:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 05:16	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 05:16	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 05:16	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 05:16	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 05:16	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 05:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 05:16	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 05:16	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 05:16	95-50-1	

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(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-11S **Lab ID: 92105069008** Collected: 10/25/11 14:10 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 05:16	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 05:16	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 05:16	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 05:16	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 05:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 05:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 05:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 05:16	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 05:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 05:16	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 05:16	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 05:16	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 05:16	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 05:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 05:16	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 05:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 05:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 05:16	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 05:16	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 05:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 05:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 05:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 05:16	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 05:16	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 05:16	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 05:16	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 05:16	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 05:16	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 05:16	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 05:16	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		10/31/11 05:16	460-00-4	
Dibromofluoromethane (S)	124	%	70-130	1		10/31/11 05:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130	1		10/31/11 05:16	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		10/31/11 05:16	2037-26-5	

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-11D **Lab ID: 92105069009** Collected: 10/25/11 14:25 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:30		
Collected Date	**10/25/11**			1		11/08/11 14:30		
Collected Time	**14:25**			1		11/08/11 14:30		
Field pH	**6.2**	Std. Units		1		11/08/11 14:30		
Field Temperature	**13.5**	deg C		1		11/08/11 14:30		
Static Water Level	**83.10**	feet		1		11/08/11 14:30		
Field Specific Conductance	**47**	umhos/cm		1		11/08/11 14:30		
Turbidity	**8.09**	NTU		1		11/08/11 14:30		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:23	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:23	7440-38-2	
Barium	**19.7**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:23	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:23	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:23	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:23	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:23	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 18:01	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:23	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:23	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:23	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:23	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 02:23	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:23	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:23	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 05:41	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 05:41	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 05:41	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 05:41	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 05:41	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 05:41	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 05:41	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 05:41	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 05:41	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 05:41	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 05:41	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 05:41	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 05:41	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 05:41	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 05:41	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 05:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 05:41	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 05:41	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 05:41	95-50-1	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-11D **Lab ID: 92105069009** Collected: 10/25/11 14:25 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 05:41	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 05:41	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 05:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 05:41	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 05:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 05:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 05:41	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 05:41	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 05:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 05:41	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 05:41	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 05:41	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 05:41	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 05:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 05:41	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 05:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 05:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 05:41	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 05:41	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 05:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 05:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 05:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 05:41	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 05:41	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 05:41	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 05:41	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 05:41	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 05:41	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 05:41	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 05:41	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		10/31/11 05:41	460-00-4	
Dibromofluoromethane (S)	122	%	70-130	1		10/31/11 05:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	116	%	70-130	1		10/31/11 05:41	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 05:41	2037-26-5	

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-14 **Lab ID: 92105069010** Collected: 10/25/11 15:25 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:33		
Collected Date	**10/25/11**			1		11/08/11 14:33		
Collected Time	**15:25**			1		11/08/11 14:33		
Field pH	**6.4**	Std. Units		1		11/08/11 14:33		
Field Temperature	**15.3**	deg C		1		11/08/11 14:33		
Static Water Level	**101.69**	feet		1		11/08/11 14:33		
Field Specific Conductance	**46**	umhos/cm		1		11/08/11 14:33		
Turbidity	**17.7**	NTU		1		11/08/11 14:33		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:26	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:26	7440-38-2	
Barium	**120**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:26	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:26	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:26	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:26	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:26	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 18:04	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:26	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:26	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:26	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:26	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 02:26	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:26	7440-62-2	
Zinc	**11.6**	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:26	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 06:06	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 06:06	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 06:06	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 06:06	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 06:06	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 06:06	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 06:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 06:06	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 06:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 06:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 06:06	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 06:06	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 06:06	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 06:06	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 06:06	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 06:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 06:06	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 06:06	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 06:06	95-50-1	

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2225 Riverside Dr.
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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-14 **Lab ID: 92105069010** Collected: 10/25/11 15:25 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 06:06	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 06:06	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 06:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 06:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 06:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 06:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 06:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 06:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 06:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 06:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 06:06	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 06:06	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 06:06	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 06:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 06:06	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 06:06	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 06:06	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 06:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 06:06	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 06:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 06:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 06:06	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 06:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 06:06	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 06:06	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 06:06	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 06:06	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 06:06	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 06:06	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 06:06	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		10/31/11 06:06	460-00-4	
Dibromofluoromethane (S)	126	%	70-130	1		10/31/11 06:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	119	%	70-130	1		10/31/11 06:06	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		10/31/11 06:06	2037-26-5	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-15 **Lab ID: 92105069011** Collected: 10/25/11 15:00 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:34		
Collected Date	**10/25/11**			1		11/08/11 14:34		
Collected Time	**15:00**			1		11/08/11 14:34		
Field pH	**5.6**	Std. Units		1		11/08/11 14:34		
Field Temperature	**16.9**	deg C		1		11/08/11 14:34		
Static Water Level	**9.65**	feet		1		11/08/11 14:34		
Field Specific Conductance	**52**	umhos/cm		1		11/08/11 14:34		
Turbidity	**154**	NTU		1		11/08/11 14:34		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:30	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:30	7440-38-2	
Barium	**123**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:30	7440-39-3	
Beryllium	**1.6**	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:30	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:30	7440-43-9	
Chromium	**5.1**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:30	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:30	7440-48-4	
Copper	**6.9**	ug/L	5.0	1	10/28/11 12:30	10/29/11 18:18	7440-50-8	
Lead	**14.6**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:30	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:30	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:30	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:30	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 02:30	7440-28-0	
Vanadium	**6.3**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:30	7440-62-2	
Zinc	**49.9**	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:30	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 06:32	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 06:32	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 06:32	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 06:32	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 06:32	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 06:32	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 06:32	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 06:32	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 06:32	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 06:32	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 06:32	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 06:32	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 06:32	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 06:32	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 06:32	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 06:32	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 06:32	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 06:32	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 06:32	95-50-1	

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(828)254-7176

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-15 **Lab ID: 92105069011** Collected: 10/25/11 15:00 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 06:32	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 06:32	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 06:32	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 06:32	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 06:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 06:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 06:32	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 06:32	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 06:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 06:32	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 06:32	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 06:32	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 06:32	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 06:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 06:32	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 06:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 06:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 06:32	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 06:32	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 06:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 06:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 06:32	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 06:32	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 06:32	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 06:32	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 06:32	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 06:32	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 06:32	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 06:32	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 06:32	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		10/31/11 06:32	460-00-4	
Dibromofluoromethane (S)	124	%	70-130	1		10/31/11 06:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	119	%	70-130	1		10/31/11 06:32	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 06:32	2037-26-5	

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(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-16 **Lab ID: 92105069012** Collected: 10/25/11 13:20 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:38		
Collected Date	**10/25/11**			1		11/08/11 14:38		
Collected Time	**13:20**			1		11/08/11 14:38		
Field pH	**5.6**	Std. Units		1		11/08/11 14:38		
Field Temperature	**16.3**	deg C		1		11/08/11 14:38		
Static Water Level	**35.61**	feet		1		11/08/11 14:38		
Field Specific Conductance	**245**	umhos/cm		1		11/08/11 14:38		
Turbidity	**4.62**	NTU		1		11/08/11 14:38		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:33	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:33	7440-38-2	
Barium	**161**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:33	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:33	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:33	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:33	7440-47-3	
Cobalt	**42.4**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:33	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 18:22	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:33	7439-92-1	
Nickel	**8.0**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:33	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:33	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:33	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 02:33	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:33	7440-62-2	
Zinc	**15.1**	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:33	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 06:57	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 06:57	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 06:57	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 06:57	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 06:57	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 06:57	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 06:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 06:57	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 06:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 06:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 06:57	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 06:57	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 06:57	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 06:57	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 06:57	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 06:57	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 06:57	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 06:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 06:57	95-50-1	

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(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-16 **Lab ID: 92105069012** Collected: 10/25/11 13:20 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 06:57	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 06:57	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 06:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 06:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 06:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 06:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 06:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 06:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 06:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 06:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 06:57	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 06:57	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 06:57	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 06:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 06:57	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 06:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 06:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 06:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 06:57	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 06:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 06:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 06:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 06:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 06:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 06:57	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 06:57	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 06:57	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 06:57	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 06:57	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 06:57	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		10/31/11 06:57	460-00-4	
Dibromofluoromethane (S)	124	%	70-130	1		10/31/11 06:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130	1		10/31/11 06:57	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 06:57	2037-26-5	

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-17 **Lab ID: 92105069013** Collected: 10/25/11 13:05 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:39		
Collected Date	**10/25/11**			1		11/08/11 14:39		
Collected Time	**13:05**			1		11/08/11 14:39		
Field pH	**5.8**	Std. Units		1		11/08/11 14:39		
Field Temperature	**15.6**	deg C		1		11/08/11 14:39		
Static Water Level	**57.00**	feet		1		11/08/11 14:39		
Field Specific Conductance	**145**	umhos/cm		1		11/08/11 14:39		
Turbidity	**1.77**	NTU		1		11/08/11 14:39		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:48	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:48	7440-38-2	
Barium	**154**	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:48	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:48	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:48	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:48	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:48	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 18:26	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:48	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:48	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:48	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:48	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 02:48	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:48	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:48	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 07:23	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 07:23	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 07:23	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 07:23	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 07:23	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 07:23	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 07:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 07:23	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 07:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 07:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 07:23	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 07:23	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 07:23	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 07:23	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 07:23	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 07:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 07:23	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 07:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 07:23	95-50-1	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: MW-17 **Lab ID: 92105069013** Collected: 10/25/11 13:05 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 07:23	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 07:23	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 07:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 07:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 07:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 07:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 07:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 07:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 07:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 07:23	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 07:23	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 07:23	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 07:23	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 07:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 07:23	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 07:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 07:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 07:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 07:23	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 07:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 07:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 07:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 07:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 07:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 07:23	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 07:23	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 07:23	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 07:23	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 07:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 07:23	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		10/31/11 07:23	460-00-4	
Dibromofluoromethane (S)	123	%	70-130	1		10/31/11 07:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130	1		10/31/11 07:23	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		10/31/11 07:23	2037-26-5	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: TVL BLK **Lab ID: 92105069014** Collected: 10/24/11 00:00 Received: 10/25/11 16:30 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		10/31/11 07:48	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 07:48	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 07:48	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 07:48	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 07:48	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 07:48	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 07:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 07:48	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 07:48	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 07:48	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 07:48	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 07:48	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 07:48	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 07:48	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 07:48	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 07:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 07:48	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 07:48	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 07:48	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 07:48	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 07:48	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 07:48	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 07:48	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 07:48	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 07:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 07:48	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 07:48	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 07:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 07:48	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 07:48	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 07:48	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 07:48	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 07:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 07:48	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 07:48	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 07:48	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 07:48	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 07:48	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 07:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 07:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 07:48	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 07:48	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 07:48	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 07:48	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 07:48	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 07:48	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 07:48	1330-20-7	

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: TVL BLK **Lab ID: 92105069014** Collected: 10/24/11 00:00 Received: 10/25/11 16:30 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		10/31/11 07:48	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 07:48	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	94	%	70-130	1		10/31/11 07:48	460-00-4	
Dibromofluoromethane (S)	122	%	70-130	1		10/31/11 07:48	1868-53-7	
1,2-Dichloroethane-d4 (S)	116	%	70-130	1		10/31/11 07:48	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 07:48	2037-26-5	

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ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: EQUIP BLK **Lab ID: 92105069015** Collected: 10/24/11 00:00 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:54	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:54	7440-38-2	
Barium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:54	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:54	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 02:54	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:54	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:54	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 18:33	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:54	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:54	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:54	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:54	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 02:54	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 02:54	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 02:54	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 08:13	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 08:13	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 08:13	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 08:13	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 08:13	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 08:13	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 08:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 08:13	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 08:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 08:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 08:13	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 08:13	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 08:13	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 08:13	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 08:13	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 08:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 08:13	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 08:13	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 08:13	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 08:13	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	1.0	1		10/31/11 08:13	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 08:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 08:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 08:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 08:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 08:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 08:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 08:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 08:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 08:13	100-41-4	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: EQUIP BLK **Lab ID: 92105069015** Collected: 10/24/11 00:00 Received: 10/25/11 16:30 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		10/31/11 08:13	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 08:13	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 08:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 08:13	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 08:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 08:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 08:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 08:13	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 08:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 08:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 08:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 08:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 08:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 08:13	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 08:13	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 08:13	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 08:13	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 08:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 08:13	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	95	%	70-130	1		10/31/11 08:13	460-00-4	
Dibromofluoromethane (S)	125	%	70-130	1		10/31/11 08:13	1868-53-7	
1,2-Dichloroethane-d4 (S)	120	%	70-130	1		10/31/11 08:13	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 08:13	2037-26-5	

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(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-1 **Lab ID: 92105069016** Collected: 10/25/11 10:30 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:42		
Collected Date	**10/25/11**			1		11/08/11 14:42		
Collected Time	**10:30**			1		11/08/11 14:42		
Field pH	**6.2**	Std. Units		1		11/08/11 14:42		
Field Temperature	**10.4**	deg C		1		11/08/11 14:42		
Field Specific Conductance	**207**	umhos/cm		1		11/08/11 14:42		
Turbidity	**7.92**	NTU		1		11/08/11 14:42		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:07	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:07	7440-38-2	
Barium	**170**	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:07	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 03:07	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 03:07	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:07	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:07	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 18:47	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:07	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:07	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 03:07	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:07	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 03:07	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:07	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 03:07	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 08:39	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 08:39	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 08:39	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 08:39	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 08:39	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 08:39	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 08:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 08:39	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 08:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 08:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 08:39	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 08:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 08:39	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 08:39	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 08:39	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 08:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 08:39	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 08:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 08:39	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 08:39	106-46-7	

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-1 **Lab ID: 92105069016** Collected: 10/25/11 10:30 Received: 10/25/11 16:30 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		10/31/11 08:39	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 08:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 08:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 08:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 08:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 08:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 08:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 08:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 08:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 08:39	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 08:39	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 08:39	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 08:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 08:39	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 08:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 08:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 08:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 08:39	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 08:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 08:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 08:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 08:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 08:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 08:39	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 08:39	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 08:39	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 08:39	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 08:39	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 08:39	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		10/31/11 08:39	460-00-4	
Dibromofluoromethane (S)	125	%	70-130	1		10/31/11 08:39	1868-53-7	
1,2-Dichloroethane-d4 (S)	119	%	70-130	1		10/31/11 08:39	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 08:39	2037-26-5	

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(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-2 **Lab ID: 92105069017** Collected: 10/25/11 10:50 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:57		
Collected Date	**10/25/11**			1		11/08/11 14:57		
Collected Time	**10:50**			1		11/08/11 14:57		
Field pH	**6.7**	Std. Units		1		11/08/11 14:57		
Field Temperature	**11.9**	deg C		1		11/08/11 14:57		
Field Specific Conductance	**208**	umhos/cm		1		11/08/11 14:57		
Turbidity	**19.0**	NTU		1		11/08/11 14:57		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7440-38-2	
Barium	**168**	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 03:33	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 03:33	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7440-47-3	
Cobalt	**5.0**	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 03:33	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 03:33	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:33	7440-62-2	
Zinc	**33.6**	ug/L	10.0	1	10/28/11 12:30	10/29/11 03:33	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		10/31/11 09:04	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		10/31/11 09:04	107-13-1	
Benzene	ND	ug/L	1.0	1		10/31/11 09:04	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		10/31/11 09:04	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/11 09:04	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/11 09:04	75-25-2	
Bromomethane	ND	ug/L	2.0	1		10/31/11 09:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		10/31/11 09:04	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		10/31/11 09:04	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/11 09:04	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		10/31/11 09:04	108-90-7	
Chloroethane	ND	ug/L	1.0	1		10/31/11 09:04	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/11 09:04	67-66-3	
Chloromethane	ND	ug/L	1.0	1		10/31/11 09:04	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		10/31/11 09:04	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		10/31/11 09:04	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		10/31/11 09:04	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		10/31/11 09:04	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 09:04	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/11 09:04	106-46-7	

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ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-2 **Lab ID: 92105069017** Collected: 10/25/11 10:50 Received: 10/25/11 16:30 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		10/31/11 09:04	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		10/31/11 09:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/11 09:04	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		10/31/11 09:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 09:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/11 09:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		10/31/11 09:04	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 09:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		10/31/11 09:04	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		10/31/11 09:04	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		10/31/11 09:04	591-78-6	
Iodomethane	ND	ug/L	5.0	1		10/31/11 09:04	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		10/31/11 09:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		10/31/11 09:04	108-10-1	
Styrene	ND	ug/L	1.0	1		10/31/11 09:04	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 09:04	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/11 09:04	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/11 09:04	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/11 09:04	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/11 09:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/11 09:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/11 09:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/31/11 09:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		10/31/11 09:04	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		10/31/11 09:04	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		10/31/11 09:04	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		10/31/11 09:04	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		10/31/11 09:04	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/31/11 09:04	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%	70-130	1		10/31/11 09:04	460-00-4	
Dibromofluoromethane (S)	126	%	70-130	1		10/31/11 09:04	1868-53-7	
1,2-Dichloroethane-d4 (S)	120	%	70-130	1		10/31/11 09:04	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		10/31/11 09:04	2037-26-5	

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(336)623-8921

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-3 **Lab ID: 92105069018** Collected: 10/25/11 11:30 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 14:58		
Collected Date	**10/25/11**			1		11/08/11 14:58		
Collected Time	**11:30**			1		11/08/11 14:58		
Field pH	**7.2**	Std. Units		1		11/08/11 14:58		
Field Temperature	**11.7**	deg C		1		11/08/11 14:58		
Field Specific Conductance	**275**	umhos/cm		1		11/08/11 14:58		
Turbidity	**8.08**	NTU		1		11/08/11 14:58		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7440-38-2	
Barium	**126**	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 03:36	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 03:36	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7440-47-3	
Cobalt	**5.0**	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 03:36	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 03:36	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 03:36	7440-62-2	
Zinc	**56.1**	ug/L	10.0	1	10/28/11 12:30	10/29/11 03:36	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/04/11 05:37	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/04/11 05:37	107-13-1	
Benzene	ND	ug/L	1.0	1		11/04/11 05:37	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/04/11 05:37	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/04/11 05:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/04/11 05:37	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/04/11 05:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/04/11 05:37	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/04/11 05:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/04/11 05:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/04/11 05:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/04/11 05:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/04/11 05:37	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/04/11 05:37	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/04/11 05:37	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/04/11 05:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/04/11 05:37	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/04/11 05:37	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 05:37	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/04/11 05:37	106-46-7	

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-3 **Lab ID: 92105069018** Collected: 10/25/11 11:30 Received: 10/25/11 16:30 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		11/04/11 05:37	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/04/11 05:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/04/11 05:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/04/11 05:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 05:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/04/11 05:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/04/11 05:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 05:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/04/11 05:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 05:37	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/04/11 05:37	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/04/11 05:37	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/04/11 05:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/04/11 05:37	108-10-1	
Styrene	ND	ug/L	1.0	1		11/04/11 05:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 05:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/04/11 05:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/04/11 05:37	127-18-4	
Toluene	ND	ug/L	1.0	1		11/04/11 05:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/04/11 05:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/04/11 05:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/04/11 05:37	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/04/11 05:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/04/11 05:37	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/04/11 05:37	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/04/11 05:37	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/04/11 05:37	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/04/11 05:37	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/04/11 05:37	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	93	%	70-130	1		11/04/11 05:37	460-00-4	
Dibromofluoromethane (S)	128	%	70-130	1		11/04/11 05:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	126	%	70-130	1		11/04/11 05:37	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		11/04/11 05:37	2037-26-5	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-5 **Lab ID: 92105069019** Collected: 10/25/11 12:55 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 15:11		
Collected Date	**10/25/11**			1		11/08/11 15:11		
Collected Time	**12:55**			1		11/08/11 15:11		
Field pH	**6.0**	Std. Units		1		11/08/11 15:11		
Field Temperature	**17.2**	deg C		1		11/08/11 15:11		
Field Specific Conductance	**241**	umhos/cm		1		11/08/11 15:11		
Turbidity	**15.5**	NTU		1		11/08/11 15:11		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7440-38-2	
Barium	**140**	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 04:00	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 04:00	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7440-47-3	
Cobalt	**28.8**	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 04:00	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 04:00	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:00	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 04:00	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/02/11 13:17	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/02/11 13:17	107-13-1	
Benzene	ND	ug/L	1.0	1		11/02/11 13:17	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/02/11 13:17	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/02/11 13:17	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/02/11 13:17	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/02/11 13:17	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/02/11 13:17	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/02/11 13:17	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/02/11 13:17	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/02/11 13:17	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/02/11 13:17	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/02/11 13:17	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/02/11 13:17	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/02/11 13:17	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/02/11 13:17	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/02/11 13:17	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/02/11 13:17	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/02/11 13:17	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/02/11 13:17	106-46-7	

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(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-5 **Lab ID: 92105069019** Collected: 10/25/11 12:55 Received: 10/25/11 16:30 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		11/02/11 13:17	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/02/11 13:17	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/02/11 13:17	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/02/11 13:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/02/11 13:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/02/11 13:17	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/02/11 13:17	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/02/11 13:17	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/02/11 13:17	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/02/11 13:17	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/02/11 13:17	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/02/11 13:17	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/02/11 13:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/02/11 13:17	108-10-1	
Styrene	ND	ug/L	1.0	1		11/02/11 13:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/02/11 13:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/02/11 13:17	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/02/11 13:17	127-18-4	
Toluene	ND	ug/L	1.0	1		11/02/11 13:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/02/11 13:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/02/11 13:17	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/02/11 13:17	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/02/11 13:17	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/02/11 13:17	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/02/11 13:17	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/02/11 13:17	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/02/11 13:17	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/02/11 13:17	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/02/11 13:17	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	93	%	70-130	1		11/02/11 13:17	460-00-4	
Dibromofluoromethane (S)	120	%	70-130	1		11/02/11 13:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	117	%	70-130	1		11/02/11 13:17	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		11/02/11 13:17	2037-26-5	

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(704)875-9092

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-6 **Lab ID: 92105069020** Collected: 10/25/11 14:30 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 15:16		
Collected Date	**10/25/11**			1		11/08/11 15:16		
Collected Time	**14:30**			1		11/08/11 15:16		
Field pH	**5.7**	Std. Units		1		11/08/11 15:16		
Field Temperature	**15.8**	deg C		1		11/08/11 15:16		
Field Specific Conductance	**42**	umhos/cm		1		11/08/11 15:16		
Turbidity	**5.52**	NTU		1		11/08/11 15:16		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7440-38-2	
Barium	**32.7**	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 04:19	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 04:19	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 04:19	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 04:19	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:19	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 04:19	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/02/11 13:43	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/02/11 13:43	107-13-1	
Benzene	ND	ug/L	1.0	1		11/02/11 13:43	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/02/11 13:43	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/02/11 13:43	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/02/11 13:43	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/02/11 13:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/02/11 13:43	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/02/11 13:43	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/02/11 13:43	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/02/11 13:43	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/02/11 13:43	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/02/11 13:43	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/02/11 13:43	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/02/11 13:43	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/02/11 13:43	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/02/11 13:43	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/02/11 13:43	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/02/11 13:43	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/02/11 13:43	106-46-7	

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(336)623-8921

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-6 **Lab ID: 92105069020** Collected: 10/25/11 14:30 Received: 10/25/11 16:30 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		11/02/11 13:43	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/02/11 13:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/02/11 13:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/02/11 13:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/02/11 13:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/02/11 13:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/02/11 13:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/02/11 13:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/02/11 13:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/02/11 13:43	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/02/11 13:43	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/02/11 13:43	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/02/11 13:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/02/11 13:43	108-10-1	
Styrene	ND	ug/L	1.0	1		11/02/11 13:43	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/02/11 13:43	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/02/11 13:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/02/11 13:43	127-18-4	
Toluene	ND	ug/L	1.0	1		11/02/11 13:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/02/11 13:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/02/11 13:43	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/02/11 13:43	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/02/11 13:43	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/02/11 13:43	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/02/11 13:43	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/02/11 13:43	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/02/11 13:43	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/02/11 13:43	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/02/11 13:43	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	93	%	70-130	1		11/02/11 13:43	460-00-4	
Dibromofluoromethane (S)	125	%	70-130	1		11/02/11 13:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	121	%	70-130	1		11/02/11 13:43	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		11/02/11 13:43	2037-26-5	

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-7 **Lab ID: 92105069021** Collected: 10/25/11 14:45 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Monitoring Well Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 15:17		
Collected Date	**10/25/11**			1		11/08/11 15:17		
Collected Time	**14:45**			1		11/08/11 15:17		
Field pH	**6.2**	Std. Units		1		11/08/11 15:17		
Field Temperature	**13.0**	deg C		1		11/08/11 15:17		
Field Specific Conductance	**17**	umhos/cm		1		11/08/11 15:17		
Turbidity	**6.19**	NTU		1		11/08/11 15:17		
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7440-36-0	
Arsenic	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7440-38-2	
Barium	**30.7**	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 04:26	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/28/11 12:30	10/29/11 04:26	7440-43-9	
Chromium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7440-47-3	
Cobalt	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7440-48-4	
Copper	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7440-50-8	
Lead	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7439-92-1	
Nickel	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 04:26	7782-49-2	
Silver	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7440-22-4	
Thallium	ND	ug/L	5.4	1	10/28/11 12:30	10/29/11 04:26	7440-28-0	
Vanadium	ND	ug/L	5.0	1	10/28/11 12:30	10/29/11 04:26	7440-62-2	
Zinc	ND	ug/L	10.0	1	10/28/11 12:30	10/29/11 04:26	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		11/01/11 06:05	67-64-1	
Acrylonitrile	ND	ug/L	10.0	1		11/01/11 06:05	107-13-1	
Benzene	ND	ug/L	1.0	1		11/01/11 06:05	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		11/01/11 06:05	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/01/11 06:05	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/01/11 06:05	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/01/11 06:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/01/11 06:05	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1		11/01/11 06:05	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/01/11 06:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/01/11 06:05	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/01/11 06:05	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/01/11 06:05	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/01/11 06:05	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/01/11 06:05	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/01/11 06:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/01/11 06:05	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/01/11 06:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/01/11 06:05	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/01/11 06:05	106-46-7	

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(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: SW-7 **Lab ID: 92105069021** Collected: 10/25/11 14:45 Received: 10/25/11 16:30 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		11/01/11 06:05	110-57-6	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/01/11 06:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/01/11 06:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/01/11 06:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/11 06:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/11 06:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/01/11 06:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/01/11 06:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/01/11 06:05	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/01/11 06:05	100-41-4	
2-Hexanone	ND	ug/L	5.0	1		11/01/11 06:05	591-78-6	
Iodomethane	ND	ug/L	5.0	1		11/01/11 06:05	74-88-4	
Methylene Chloride	ND	ug/L	2.0	1		11/01/11 06:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/01/11 06:05	108-10-1	
Styrene	ND	ug/L	1.0	1		11/01/11 06:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/11 06:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/11 06:05	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/01/11 06:05	127-18-4	
Toluene	ND	ug/L	1.0	1		11/01/11 06:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/01/11 06:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/01/11 06:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/01/11 06:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/01/11 06:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/01/11 06:05	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/01/11 06:05	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/01/11 06:05	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		11/01/11 06:05	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		11/01/11 06:05	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/01/11 06:05	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	97	%	70-130	1		11/01/11 06:05	460-00-4	
Dibromofluoromethane (S)	97	%	70-130	1		11/01/11 06:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		11/01/11 06:05	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		11/01/11 06:05	2037-26-5	

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: LEACHATE **Lab ID: 92105069022** Collected: 10/25/11 12:10 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:							
Collected By	**MPS**			1		11/08/11 15:17		
Collected Date	**10/25/11**			1		11/08/11 15:17		
Collected Time	**11:05**			1		11/08/11 15:17		
Field pH	**6.9**	Std. Units		1		11/08/11 15:17		
Field Temperature	**11.7**	deg C		1		11/08/11 15:17		
Field Specific Conductance	**272**	umhos/cm		1		11/08/11 15:17		
Turbidity	**6.35**	NTU		1		11/08/11 15:17		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7440-36-0	
Arsenic	**7.2**	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7440-38-2	
Barium	**261**	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7440-39-3	
Beryllium	ND	ug/L	1.0	1	10/31/11 11:45	11/01/11 19:37	7440-41-7	
Cadmium	ND	ug/L	1.0	1	10/31/11 11:45	11/01/11 19:37	7440-43-9	
Chromium	**35.4**	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7440-47-3	
Cobalt	**19.7**	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7440-48-4	
Copper	ND	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7440-50-8	
Lead	ND	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7439-92-1	
Nickel	**170**	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7440-02-0	
Selenium	ND	ug/L	10.0	1	10/31/11 11:45	11/01/11 19:37	7782-49-2	
Silver	ND	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7440-22-4	
Thallium	ND	ug/L	10.0	1	10/31/11 11:45	11/01/11 19:37	7440-28-0	
Vanadium	**14.0**	ug/L	5.0	1	10/31/11 11:45	11/01/11 19:37	7440-62-2	
Zinc	**18.0**	ug/L	10.0	1	10/31/11 11:45	11/01/11 19:37	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	**43.9**	ug/L	25.0	1		11/01/11 06:29	67-64-1	
Benzene	ND	ug/L	1.0	1		11/01/11 06:29	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/01/11 06:29	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/01/11 06:29	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/01/11 06:29	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/01/11 06:29	75-25-2	
Bromomethane	ND	ug/L	2.0	1		11/01/11 06:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		11/01/11 06:29	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		11/01/11 06:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/01/11 06:29	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/01/11 06:29	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/01/11 06:29	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/01/11 06:29	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/01/11 06:29	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		11/01/11 06:29	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1		11/01/11 06:29	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/01/11 06:29	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/01/11 06:29	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/01/11 06:29	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/01/11 06:29	95-50-1	

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(336)623-8921

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: LEACHATE **Lab ID: 92105069022** Collected: 10/25/11 12:10 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/01/11 06:29	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/01/11 06:29	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/01/11 06:29	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/01/11 06:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/01/11 06:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/01/11 06:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/11 06:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/11 06:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/01/11 06:29	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/01/11 06:29	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/01/11 06:29	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/01/11 06:29	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/01/11 06:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/01/11 06:29	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		11/01/11 06:29	108-20-3	
Ethylbenzene	**1.0**	ug/L	1.0	1		11/01/11 06:29	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/01/11 06:29	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		11/01/11 06:29	591-78-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/01/11 06:29	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		11/01/11 06:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		11/01/11 06:29	108-10-1	
Methyl-tert-butyl ether	**1.5**	ug/L	1.0	1		11/01/11 06:29	1634-04-4	
Naphthalene	**1.6**	ug/L	1.0	1		11/01/11 06:29	91-20-3	
Styrene	ND	ug/L	1.0	1		11/01/11 06:29	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/11 06:29	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/11 06:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/01/11 06:29	127-18-4	
Toluene	**1.5**	ug/L	1.0	1		11/01/11 06:29	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/01/11 06:29	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/01/11 06:29	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/01/11 06:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/01/11 06:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/01/11 06:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/01/11 06:29	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/01/11 06:29	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		11/01/11 06:29	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		11/01/11 06:29	75-01-4	
m&p-Xylene	**3.5**	ug/L	2.0	1		11/01/11 06:29	179601-23-1	
o-Xylene	**2.3**	ug/L	1.0	1		11/01/11 06:29	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		11/01/11 06:29	460-00-4	
Dibromofluoromethane (S)	95	%	70-130	1		11/01/11 06:29	1868-53-7	
1,2-Dichloroethane-d4 (S)	95	%	70-130	1		11/01/11 06:29	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		11/01/11 06:29	2037-26-5	
5210B BOD, 5 day	Analytical Method: SM 5210B							
BOD, 5 day	**63.9**	mg/L	2.0	1	10/26/11 12:50	10/31/11 09:45		

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

ANALYTICAL RESULTS

Project: WhiteOak LF
Pace Project No.: 92105069

Sample: LEACHATE **Lab ID: 92105069022** Collected: 10/25/11 12:10 Received: 10/25/11 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**5170**	mg/L	2500	500		10/31/11 12:23	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**0.85**	mg/L	0.20	1		10/26/11 22:19		
Nitrogen, Nitrite	**0.17**	mg/L	0.10	1		10/26/11 22:19		M1
Nitrogen, NO2 plus NO3	**1.0**	mg/L	0.20	1		10/26/11 22:19		
365.1 Phosphorus, Total	Analytical Method: EPA 365.1							
Phosphorus	**1.2**	mg/L	0.050	1		11/08/11 08:51	7723-14-0	
5220D COD	Analytical Method: SM 5220D							
Chemical Oxygen Demand	**908**	mg/L	25.0	1		11/04/11 23:00		

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: MPRP/9295 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92105069001, 92105069002, 92105069003, 92105069004, 92105069005

METHOD BLANK: 678479 — Matrix: Water
Associated Lab Samples: 92105069001, 92105069002, 92105069003, 92105069004, 92105069005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	10/27/11 20:31	
Arsenic	ug/L	ND	5.0	10/27/11 20:31	
Barium	ug/L	ND	5.0	10/27/11 20:31	
Beryllium	ug/L	ND	1.0	10/27/11 20:31	
Cadmium	ug/L	ND	1.0	10/27/11 20:31	
Chromium	ug/L	ND	5.0	10/27/11 20:31	
Cobalt	ug/L	ND	5.0	10/27/11 20:31	
Copper	ug/L	ND	5.0	10/27/11 20:31	
Lead	ug/L	ND	5.0	10/27/11 20:31	
Nickel	ug/L	ND	5.0	10/27/11 20:31	
Selenium	ug/L	ND	10.0	10/27/11 20:31	
Silver	ug/L	ND	5.0	10/27/11 20:31	
Thallium	ug/L	ND	5.4	10/27/11 20:31	
Vanadium	ug/L	ND	5.0	10/27/11 20:31	
Zinc	ug/L	ND	10.0	10/27/11 20:31	

LABORATORY CONTROL SAMPLE: 678480

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	503	101	80-120	
Arsenic	ug/L	500	503	101	80-120	
Barium	ug/L	500	528	106	80-120	
Beryllium	ug/L	500	508	102	80-120	
Cadmium	ug/L	500	491	98	80-120	
Chromium	ug/L	500	490	98	80-120	
Cobalt	ug/L	500	506	101	80-120	
Copper	ug/L	500	536	107	80-120	
Lead	ug/L	500	506	101	80-120	
Nickel	ug/L	500	498	100	80-120	
Selenium	ug/L	500	503	101	80-120	
Silver	ug/L	250	250	100	80-120	
Thallium	ug/L	500	503	101	80-120	
Vanadium	ug/L	500	503	101	80-120	
Zinc	ug/L	500	486	97	80-120	

MATRIX SPIKE SAMPLE: 678481

Parameter	Units	92104753005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	ND	500	519	104	75-125	
Arsenic	ug/L	ND	500	533	106	75-125	

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9800 Kincey Ave. Suite 100
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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

MATRIX SPIKE SAMPLE: 678481

Parameter	Units	92104753005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	151	500	665	103	75-125	
Beryllium	ug/L	ND	500	512	102	75-125	
Cadmium	ug/L	ND	500	482	96	75-125	
Chromium	ug/L	ND	500	484	97	75-125	
Cobalt	ug/L	ND	500	496	99	75-125	
Copper	ug/L	ND	500	547	109	75-125	
Lead	ug/L	ND	500	487	97	75-125	
Nickel	ug/L	ND	500	492	97	75-125	
Selenium	ug/L	ND	500	527	105	75-125	
Silver	ug/L	ND	250	254	101	75-125	
Thallium	ug/L	ND	500	480	96	75-125	
Vanadium	ug/L	ND	500	506	101	75-125	
Zinc	ug/L	ND	500	500	99	75-125	

SAMPLE DUPLICATE: 678482

Parameter	Units	92104753006 Result	Dup Result	RPD	Qualifiers
Antimony	ug/L	ND	ND		
Arsenic	ug/L	ND	ND		
Barium	ug/L	53.7	54.2	1	
Beryllium	ug/L	ND	ND		
Cadmium	ug/L	ND	ND		
Chromium	ug/L	ND	ND		
Cobalt	ug/L	ND	ND		
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	10.1		

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: MPRP/9299 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92105069006, 92105069007, 92105069008, 92105069009, 92105069010, 92105069011, 92105069012, 92105069013, 92105069015, 92105069016, 92105069017, 92105069018

METHOD BLANK: 678717 — Matrix: Water
Associated Lab Samples: 92105069006, 92105069007, 92105069008, 92105069009, 92105069010, 92105069011, 92105069012, 92105069013, 92105069015, 92105069016, 92105069017, 92105069018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	10/29/11 02:05	
Arsenic	ug/L	ND	5.0	10/29/11 02:05	
Barium	ug/L	ND	5.0	10/29/11 02:05	
Beryllium	ug/L	ND	1.0	10/29/11 02:05	
Cadmium	ug/L	ND	1.0	10/29/11 02:05	
Chromium	ug/L	ND	5.0	10/29/11 02:05	
Cobalt	ug/L	ND	5.0	10/29/11 02:05	
Copper	ug/L	ND	5.0	10/29/11 17:42	
Lead	ug/L	ND	5.0	10/29/11 02:05	
Nickel	ug/L	ND	5.0	10/29/11 02:05	
Selenium	ug/L	ND	10.0	10/29/11 02:05	
Silver	ug/L	ND	5.0	10/29/11 02:05	
Thallium	ug/L	ND	5.4	10/29/11 02:05	
Vanadium	ug/L	ND	5.0	10/29/11 02:05	
Zinc	ug/L	ND	10.0	10/29/11 02:05	

LABORATORY CONTROL SAMPLE: 678718

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	459	92	80-120	
Arsenic	ug/L	500	462	92	80-120	
Barium	ug/L	500	466	93	80-120	
Beryllium	ug/L	500	481	96	80-120	
Cadmium	ug/L	500	484	97	80-120	
Chromium	ug/L	500	484	97	80-120	
Cobalt	ug/L	500	476	95	80-120	
Copper	ug/L	500	510	102	80-120	
Lead	ug/L	500	473	95	80-120	
Nickel	ug/L	500	479	96	80-120	
Selenium	ug/L	500	467	93	80-120	
Silver	ug/L	250	238	95	80-120	
Thallium	ug/L	500	458	92	80-120	
Vanadium	ug/L	500	466	93	80-120	
Zinc	ug/L	500	482	96	80-120	

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 678719 678720

Parameter	Units	92105073005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	ug/L	ND	500	500	454	453	91	91	75-125	0	
Arsenic	ug/L	ND	500	500	473	466	95	93	75-125	1	
Barium	ug/L	52.6	500	500	529	527	95	95	75-125	0	
Beryllium	ug/L	ND	500	500	490	485	98	97	75-125	1	
Cadmium	ug/L	ND	500	500	487	484	97	97	75-125	1	
Chromium	ug/L	5.4	500	500	498	496	99	98	75-125	0	
Cobalt	ug/L	ND	500	500	484	481	96	96	75-125	1	
Copper	ug/L	6.5	500	500	522	518	103	102	75-125	1	
Lead	ug/L	ND	500	500	467	466	93	93	75-125	0	
Nickel	ug/L	ND	500	500	489	486	97	97	75-125	1	
Selenium	ug/L	ND	500	500	472	472	94	94	75-125	0	
Silver	ug/L	ND	250	250	241	240	96	96	75-125	0	
Thallium	ug/L	ND	500	500	457	456	91	91	75-125	0	
Vanadium	ug/L	16.3	500	500	493	490	95	95	75-125	1	
Zinc	ug/L	12.2	500	500	515	499	101	97	75-125	3	

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: MPRP/9300 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 92105069019, 92105069020, 92105069021

METHOD BLANK: 678723 — Matrix: Water
Associated Lab Samples: 92105069019, 92105069020, 92105069021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	10/29/11 03:53	
Arsenic	ug/L	ND	5.0	10/29/11 03:53	
Barium	ug/L	ND	5.0	10/29/11 03:53	
Beryllium	ug/L	ND	1.0	10/29/11 03:53	
Cadmium	ug/L	ND	1.0	10/29/11 03:53	
Chromium	ug/L	ND	5.0	10/29/11 03:53	
Cobalt	ug/L	ND	5.0	10/29/11 03:53	
Copper	ug/L	ND	5.0	10/29/11 03:53	
Lead	ug/L	ND	5.0	10/29/11 03:53	
Nickel	ug/L	ND	5.0	10/29/11 03:53	
Selenium	ug/L	ND	10.0	10/29/11 03:53	
Silver	ug/L	ND	5.0	10/29/11 03:53	
Thallium	ug/L	ND	5.4	10/29/11 03:53	
Vanadium	ug/L	ND	5.0	10/29/11 03:53	
Zinc	ug/L	ND	10.0	10/29/11 03:53	

LABORATORY CONTROL SAMPLE: 678724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	465	93	80-120	
Arsenic	ug/L	500	467	93	80-120	
Barium	ug/L	500	471	94	80-120	
Beryllium	ug/L	500	488	98	80-120	
Cadmium	ug/L	500	490	98	80-120	
Chromium	ug/L	500	491	98	80-120	
Cobalt	ug/L	500	482	96	80-120	
Copper	ug/L	500	460	92	80-120	
Lead	ug/L	500	479	96	80-120	
Nickel	ug/L	500	485	97	80-120	
Selenium	ug/L	500	472	94	80-120	
Silver	ug/L	250	241	96	80-120	
Thallium	ug/L	500	462	92	80-120	
Vanadium	ug/L	500	472	94	80-120	
Zinc	ug/L	500	489	98	80-120	

MATRIX SPIKE SAMPLE: 678725

Parameter	Units	92105069019 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	ND	500	462	92	75-125	
Arsenic	ug/L	ND	500	468	93	75-125	

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

MATRIX SPIKE SAMPLE: 678725

Parameter	Units	92105069019 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	140	500	601	92	75-125	
Beryllium	ug/L	ND	500	479	96	75-125	
Cadmium	ug/L	ND	500	478	96	75-125	
Chromium	ug/L	ND	500	479	96	75-125	
Cobalt	ug/L	28.8	500	497	94	75-125	
Copper	ug/L	ND	500	459	92	75-125	
Lead	ug/L	ND	500	462	92	75-125	
Nickel	ug/L	ND	500	477	95	75-125	
Selenium	ug/L	ND	500	467	93	75-125	
Silver	ug/L	ND	250	238	95	75-125	
Thallium	ug/L	ND	500	449	89	75-125	
Vanadium	ug/L	ND	500	464	93	75-125	
Zinc	ug/L	ND	500	483	96	75-125	

SAMPLE DUPLICATE: 678726

Parameter	Units	92105069020 Result	Dup Result	RPD	Qualifiers
Antimony	ug/L	ND	ND		
Arsenic	ug/L	ND	ND		
Barium	ug/L	32.7	32.9	1	
Beryllium	ug/L	ND	ND		
Cadmium	ug/L	ND	ND		
Chromium	ug/L	ND	ND		
Cobalt	ug/L	ND	ND		
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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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: MPRP/9323
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 92105069022

METHOD BLANK: 680263
Matrix: Water
Associated Lab Samples: 92105069022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	11/01/11 18:57	
Arsenic	ug/L	ND	5.0	11/01/11 18:57	
Barium	ug/L	ND	5.0	11/01/11 18:57	
Beryllium	ug/L	ND	1.0	11/01/11 18:57	
Cadmium	ug/L	ND	1.0	11/01/11 18:57	
Chromium	ug/L	ND	5.0	11/01/11 18:57	
Cobalt	ug/L	ND	5.0	11/01/11 18:57	
Copper	ug/L	ND	5.0	11/01/11 18:57	
Lead	ug/L	ND	5.0	11/01/11 18:57	
Nickel	ug/L	ND	5.0	11/01/11 18:57	
Selenium	ug/L	ND	10.0	11/01/11 18:57	
Silver	ug/L	ND	5.0	11/01/11 18:57	
Thallium	ug/L	ND	10.0	11/01/11 18:57	
Vanadium	ug/L	ND	5.0	11/01/11 18:57	
Zinc	ug/L	ND	10.0	11/01/11 18:57	

LABORATORY CONTROL SAMPLE: 680264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	476	95	80-120	
Arsenic	ug/L	500	476	95	80-120	
Barium	ug/L	500	479	96	80-120	
Beryllium	ug/L	500	492	98	80-120	
Cadmium	ug/L	500	485	97	80-120	
Chromium	ug/L	500	477	95	80-120	
Cobalt	ug/L	500	490	98	80-120	
Copper	ug/L	500	474	95	80-120	
Lead	ug/L	500	479	96	80-120	
Nickel	ug/L	500	484	97	80-120	
Selenium	ug/L	500	479	96	80-120	
Silver	ug/L	250	243	97	80-120	
Thallium	ug/L	500	472	94	80-120	
Vanadium	ug/L	500	477	95	80-120	
Zinc	ug/L	500	485	97	80-120	

MATRIX SPIKE SAMPLE: 680265

Parameter	Units	92104999031 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	ND	500	400	80	75-125	
Arsenic	ug/L	5.9	500	470	93	75-125	

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(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

MATRIX SPIKE SAMPLE: 680265

Parameter	Units	92104999031 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	59.3	500	528	94	75-125	
Beryllium	ug/L	ND	500	471	94	75-125	
Cadmium	ug/L	ND	500	456	91	75-125	
Chromium	ug/L	11.5	500	468	91	75-125	
Cobalt	ug/L	141	500	595	91	75-125	
Copper	ug/L	166	500	640	95	75-125	
Lead	ug/L	45.4	500	483	88	75-125	
Nickel	ug/L	23.4	500	485	92	75-125	
Selenium	ug/L	ND	500	473	93	75-125	
Silver	ug/L	ND	250	233	93	75-125	
Thallium	ug/L	ND	500	438	86	75-125	
Vanadium	ug/L	28.9	500	490	92	75-125	
Zinc	ug/L	538	500	1010	94	75-125	

SAMPLE DUPLICATE: 680266

Parameter	Units	92105045004 Result	Dup Result	RPD	Qualifiers
Antimony	ug/L	12.1	14.9	21	D6
Arsenic	ug/L	58.3	54.7	6	
Barium	ug/L	14100	16000	13	
Beryllium	ug/L	11.4	11.6	2	
Cadmium	ug/L	108	113	5	
Chromium	ug/L	2010	2090	4	
Cobalt	ug/L	ND	ND		
Copper	ug/L	8070	8430	4	
Lead	ug/L	1540	1580	2	
Nickel	ug/L	332	342	3	
Selenium	ug/L	197	199	1	
Silver	ug/L	81.8	84.4	3	
Thallium	ug/L	ND	ND		
Vanadium	ug/L	570	592	4	
Zinc	ug/L	28200	31600	11	

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: MSV/17149 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Low Level

Associated Lab Samples: 92105069001, 92105069002, 92105069003, 92105069004, 92105069005, 92105069006, 92105069007, 92105069008, 92105069009, 92105069010, 92105069011, 92105069012, 92105069013, 92105069014, 92105069015, 92105069016, 92105069017

METHOD BLANK: 680206 — Matrix: Water

Associated Lab Samples: 92105069001, 92105069002, 92105069003, 92105069004, 92105069005, 92105069006, 92105069007, 92105069008, 92105069009, 92105069010, 92105069011, 92105069012, 92105069013, 92105069014, 92105069015, 92105069016, 92105069017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	10/31/11 01:53	
1,1,1-Trichloroethane	ug/L	ND	1.0	10/31/11 01:53	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/31/11 01:53	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/31/11 01:53	
1,1-Dichloroethane	ug/L	ND	1.0	10/31/11 01:53	
1,1-Dichloroethene	ug/L	ND	1.0	10/31/11 01:53	
1,2,3-Trichloropropane	ug/L	ND	1.0	10/31/11 01:53	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	10/31/11 01:53	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	10/31/11 01:53	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/31/11 01:53	
1,2-Dichloroethane	ug/L	ND	1.0	10/31/11 01:53	
1,2-Dichloropropane	ug/L	ND	1.0	10/31/11 01:53	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/31/11 01:53	
2-Butanone (MEK)	ug/L	ND	5.0	10/31/11 01:53	
2-Hexanone	ug/L	ND	5.0	10/31/11 01:53	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	10/31/11 01:53	
Acetone	ug/L	ND	25.0	10/31/11 01:53	
Acrylonitrile	ug/L	ND	10.0	10/31/11 01:53	
Benzene	ug/L	ND	1.0	10/31/11 01:53	
Bromochloromethane	ug/L	ND	1.0	10/31/11 01:53	
Bromodichloromethane	ug/L	ND	1.0	10/31/11 01:53	
Bromoform	ug/L	ND	1.0	10/31/11 01:53	
Bromomethane	ug/L	ND	2.0	10/31/11 01:53	
Carbon disulfide	ug/L	ND	2.0	10/31/11 01:53	
Carbon tetrachloride	ug/L	ND	1.0	10/31/11 01:53	
Chlorobenzene	ug/L	ND	1.0	10/31/11 01:53	
Chloroethane	ug/L	ND	1.0	10/31/11 01:53	
Chloroform	ug/L	ND	1.0	10/31/11 01:53	
Chloromethane	ug/L	ND	1.0	10/31/11 01:53	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/31/11 01:53	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/31/11 01:53	
Dibromochloromethane	ug/L	ND	1.0	10/31/11 01:53	
Dibromomethane	ug/L	ND	1.0	10/31/11 01:53	
Ethylbenzene	ug/L	ND	1.0	10/31/11 01:53	
Iodomethane	ug/L	ND	5.0	10/31/11 01:53	
m&p-Xylene	ug/L	ND	2.0	10/31/11 01:53	
Methylene Chloride	ug/L	ND	2.0	10/31/11 01:53	
o-Xylene	ug/L	ND	1.0	10/31/11 01:53	
Styrene	ug/L	ND	1.0	10/31/11 01:53	

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(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

METHOD BLANK: 680206 Matrix: Water

Associated Lab Samples: 92105069001, 92105069002, 92105069003, 92105069004, 92105069005, 92105069006, 92105069007, 92105069008, 92105069009, 92105069010, 92105069011, 92105069012, 92105069013, 92105069014, 92105069015, 92105069016, 92105069017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Tetrachloroethene	ug/L	ND	1.0	10/31/11 01:53	
Toluene	ug/L	ND	1.0	10/31/11 01:53	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/31/11 01:53	
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/31/11 01:53	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	10/31/11 01:53	
Trichloroethene	ug/L	ND	1.0	10/31/11 01:53	
Trichlorofluoromethane	ug/L	ND	1.0	10/31/11 01:53	
Vinyl acetate	ug/L	ND	2.0	10/31/11 01:53	
Vinyl chloride	ug/L	ND	1.0	10/31/11 01:53	
Xylene (Total)	ug/L	ND	2.0	10/31/11 01:53	
1,2-Dichloroethane-d4 (S)	%	96	70-130	10/31/11 01:53	
4-Bromofluorobenzene (S)	%	97	70-130	10/31/11 01:53	
Dibromofluoromethane (S)	%	108	70-130	10/31/11 01:53	
Toluene-d8 (S)	%	96	70-130	10/31/11 01:53	

LABORATORY CONTROL SAMPLE: 680207

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	52.5	105	70-130	
1,1,1-Trichloroethane	ug/L	50	48.0	96	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.8	100	70-130	
1,1,2-Trichloroethane	ug/L	50	52.8	106	70-130	
1,1-Dichloroethane	ug/L	50	47.8	96	70-130	
1,1-Dichloroethene	ug/L	50	48.1	96	70-132	
1,2,3-Trichloropropane	ug/L	50	46.1	92	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	40.5	81	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	51.0	102	70-130	
1,2-Dichlorobenzene	ug/L	50	55.1	110	70-130	
1,2-Dichloroethane	ug/L	50	46.1	92	70-130	
1,2-Dichloropropane	ug/L	50	51.4	103	70-130	
1,4-Dichlorobenzene	ug/L	50	52.3	105	70-130	
2-Butanone (MEK)	ug/L	100	87.2	87	70-145	
2-Hexanone	ug/L	100	85.6	86	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.5	97	70-140	
Acetone	ug/L	100	84.8	85	50-175	
Acrylonitrile	ug/L	250	225	90	70-143	
Benzene	ug/L	50	52.2	104	70-130	
Bromochloromethane	ug/L	50	50.1	100	70-130	
Bromodichloromethane	ug/L	50	50.1	100	70-130	
Bromoform	ug/L	50	51.4	103	70-130	
Bromomethane	ug/L	50	35.9	72	54-130	
Carbon disulfide	ug/L	50	42.9	86	70-131	
Carbon tetrachloride	ug/L	50	49.8	100	70-132	
Chlorobenzene	ug/L	50	53.8	108	70-130	

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(704)875-9092

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

LABORATORY CONTROL SAMPLE: 680207

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroethane	ug/L	50	45.8	92	64-134	
Chloroform	ug/L	50	47.8	96	70-130	
Chloromethane	ug/L	50	39.9	80	64-130	
cis-1,2-Dichloroethene	ug/L	50	46.8	94	70-131	
cis-1,3-Dichloropropene	ug/L	50	52.1	104	70-130	
Dibromochloromethane	ug/L	50	49.3	99	70-130	
Dibromomethane	ug/L	50	54.3	109	70-131	
Ethylbenzene	ug/L	50	53.2	106	70-130	
Iodomethane	ug/L	100	107	107	49-180	
m&p-Xylene	ug/L	100	107	107	70-130	
Methylene Chloride	ug/L	50	39.5	79	63-130	
o-Xylene	ug/L	50	52.0	104	70-130	
Styrene	ug/L	50	53.0	106	70-130	
Tetrachloroethene	ug/L	50	54.5	109	70-130	
Toluene	ug/L	50	53.2	106	70-130	
trans-1,2-Dichloroethene	ug/L	50	47.6	95	70-130	
trans-1,3-Dichloropropene	ug/L	50	50.2	100	70-132	
trans-1,4-Dichloro-2-butene	ug/L	50	56.5	113	70-141	
Trichloroethene	ug/L	50	56.4	113	70-130	
Trichlorofluoromethane	ug/L	50	40.9	82	62-133	
Vinyl acetate	ug/L	100	86.7	87	66-157	
Vinyl chloride	ug/L	50	49.0	98	69-130	
Xylene (Total)	ug/L	150	159	106	70-130	
1,2-Dichloroethane-d4 (S)	%			85	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			92	70-130	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 681245 681246

Parameter	Units	92105069010 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	50.4	52.6	101	105	70-166	4	
Benzene	ug/L	ND	50	50	52.9	54.2	106	108	70-148	2	
Chlorobenzene	ug/L	ND	50	50	53.1	54.6	106	109	70-146	3	
Toluene	ug/L	ND	50	50	53.8	54.5	108	109	70-155	1	
Trichloroethene	ug/L	ND	50	50	55.4	57.0	111	114	69-151	3	
1,2-Dichloroethane-d4 (S)	%						97	96	70-130		
4-Bromofluorobenzene (S)	%						98	99	70-130		
Dibromofluoromethane (S)	%						97	94	70-130		
Toluene-d8 (S)	%						95	98	70-130		

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: MSV/17152 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92105069021, 92105069022

METHOD BLANK: 680212 | Matrix: Water
Associated Lab Samples: 92105069021, 92105069022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/01/11 05:40	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/01/11 05:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/01/11 05:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/01/11 05:40	
1,1-Dichloroethane	ug/L	ND	1.0	11/01/11 05:40	
1,1-Dichloroethene	ug/L	ND	1.0	11/01/11 05:40	
1,1-Dichloropropene	ug/L	ND	1.0	11/01/11 05:40	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/01/11 05:40	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/01/11 05:40	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/01/11 05:40	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	11/01/11 05:40	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/01/11 05:40	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/01/11 05:40	
1,2-Dichloroethane	ug/L	ND	1.0	11/01/11 05:40	
1,2-Dichloropropane	ug/L	ND	1.0	11/01/11 05:40	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/01/11 05:40	
1,3-Dichloropropane	ug/L	ND	1.0	11/01/11 05:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/01/11 05:40	
2,2-Dichloropropane	ug/L	ND	1.0	11/01/11 05:40	
2-Butanone (MEK)	ug/L	ND	5.0	11/01/11 05:40	
2-Chlorotoluene	ug/L	ND	1.0	11/01/11 05:40	
2-Hexanone	ug/L	ND	5.0	11/01/11 05:40	
4-Chlorotoluene	ug/L	ND	1.0	11/01/11 05:40	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/01/11 05:40	
Acetone	ug/L	ND	25.0	11/01/11 05:40	
Acrylonitrile	ug/L	ND	10.0	11/01/11 05:40	
Benzene	ug/L	ND	1.0	11/01/11 05:40	
Bromobenzene	ug/L	ND	1.0	11/01/11 05:40	
Bromochloromethane	ug/L	ND	1.0	11/01/11 05:40	
Bromodichloromethane	ug/L	ND	1.0	11/01/11 05:40	
Bromoform	ug/L	ND	1.0	11/01/11 05:40	
Bromomethane	ug/L	ND	2.0	11/01/11 05:40	
Carbon disulfide	ug/L	ND	2.0	11/01/11 05:40	
Carbon tetrachloride	ug/L	ND	1.0	11/01/11 05:40	
Chlorobenzene	ug/L	ND	1.0	11/01/11 05:40	
Chloroethane	ug/L	ND	1.0	11/01/11 05:40	
Chloroform	ug/L	ND	1.0	11/01/11 05:40	
Chloromethane	ug/L	ND	1.0	11/01/11 05:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/01/11 05:40	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/01/11 05:40	
Dibromochloromethane	ug/L	ND	1.0	11/01/11 05:40	
Dibromomethane	ug/L	ND	1.0	11/01/11 05:40	
Dichlorodifluoromethane	ug/L	ND	1.0	11/01/11 05:40	

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

METHOD BLANK: 680212 Matrix: Water

Associated Lab Samples: 92105069021, 92105069022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/01/11 05:40	
Ethylbenzene	ug/L	ND	1.0	11/01/11 05:40	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/01/11 05:40	
Iodomethane	ug/L	ND	5.0	11/01/11 05:40	
m&p-Xylene	ug/L	ND	2.0	11/01/11 05:40	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/01/11 05:40	
Methylene Chloride	ug/L	ND	2.0	11/01/11 05:40	
Naphthalene	ug/L	ND	1.0	11/01/11 05:40	
o-Xylene	ug/L	ND	1.0	11/01/11 05:40	
p-Isopropyltoluene	ug/L	ND	1.0	11/01/11 05:40	
Styrene	ug/L	ND	1.0	11/01/11 05:40	
Tetrachloroethene	ug/L	ND	1.0	11/01/11 05:40	
Toluene	ug/L	ND	1.0	11/01/11 05:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/01/11 05:40	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/01/11 05:40	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	11/01/11 05:40	
Trichloroethene	ug/L	ND	1.0	11/01/11 05:40	
Trichlorofluoromethane	ug/L	ND	1.0	11/01/11 05:40	
Vinyl acetate	ug/L	ND	2.0	11/01/11 05:40	
Vinyl chloride	ug/L	ND	1.0	11/01/11 05:40	
Xylene (Total)	ug/L	ND	2.0	11/01/11 05:40	
1,2-Dichloroethane-d4 (S)	%	95	70-130	11/01/11 05:40	
4-Bromofluorobenzene (S)	%	97	70-130	11/01/11 05:40	
Dibromofluoromethane (S)	%	94	70-130	11/01/11 05:40	
Toluene-d8 (S)	%	99	70-130	11/01/11 05:40	

LABORATORY CONTROL SAMPLE: 680213

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.2	100	70-130	
1,1,1-Trichloroethane	ug/L	50	46.1	92	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	48.7	97	70-130	
1,1,2-Trichloroethane	ug/L	50	47.8	96	70-130	
1,1-Dichloroethane	ug/L	50	44.3	89	70-130	
1,1-Dichloroethene	ug/L	50	46.0	92	70-132	
1,1-Dichloropropene	ug/L	50	42.4	85	70-130	
1,2,3-Trichlorobenzene	ug/L	50	42.1	84	70-135	
1,2,3-Trichloropropane	ug/L	50	46.5	93	70-130	
1,2,4-Trichlorobenzene	ug/L	50	41.0	82	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	49.7	99	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	46.1	92	70-130	
1,2-Dichlorobenzene	ug/L	50	45.2	90	70-130	
1,2-Dichloroethane	ug/L	50	46.5	93	70-130	
1,2-Dichloropropane	ug/L	50	45.4	91	70-130	
1,3-Dichlorobenzene	ug/L	50	44.6	89	70-130	

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(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

LABORATORY CONTROL SAMPLE: 680213

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	45.7	91	70-130	
1,4-Dichlorobenzene	ug/L	50	44.5	89	70-130	
2,2-Dichloropropane	ug/L	50	37.3	75	58-145	
2-Butanone (MEK)	ug/L	100	87.6	88	70-145	
2-Chlorotoluene	ug/L	50	46.1	92	70-130	
2-Hexanone	ug/L	100	92.8	93	70-144	
4-Chlorotoluene	ug/L	50	46.6	93	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.2	99	70-140	
Acetone	ug/L	100	83.9	84	50-175	
Acrylonitrile	ug/L	250	237	95	70-143	
Benzene	ug/L	50	43.9	88	70-130	
Bromobenzene	ug/L	50	42.9	86	70-130	
Bromochloromethane	ug/L	50	43.4	87	70-130	
Bromodichloromethane	ug/L	50	48.4	97	70-130	
Bromoform	ug/L	50	50.9	102	70-130	
Bromomethane	ug/L	50	40.8	82	54-130	
Carbon disulfide	ug/L	50	34.4	69	70-131	L0
Carbon tetrachloride	ug/L	50	47.9	96	70-132	
Chlorobenzene	ug/L	50	48.1	96	70-130	
Chloroethane	ug/L	50	44.1	88	64-134	
Chloroform	ug/L	50	45.7	91	70-130	
Chloromethane	ug/L	50	42.3	85	64-130	
cis-1,2-Dichloroethene	ug/L	50	42.4	85	70-131	
cis-1,3-Dichloropropene	ug/L	50	45.4	91	70-130	
Dibromochloromethane	ug/L	50	47.4	95	70-130	
Dibromomethane	ug/L	50	45.7	91	70-131	
Dichlorodifluoromethane	ug/L	50	39.2	78	56-130	
Diisopropyl ether	ug/L	50	42.6	85	70-130	
Ethylbenzene	ug/L	50	44.5	89	70-130	
Hexachloro-1,3-butadiene	ug/L	50	40.8	82	70-130	
Iodomethane	ug/L	100	93.9	94	49-180	
m&p-Xylene	ug/L	100	89.6	90	70-130	
Methyl-tert-butyl ether	ug/L	50	44.5	89	70-130	
Methylene Chloride	ug/L	50	43.7	87	63-130	
Naphthalene	ug/L	50	44.0	88	70-138	
o-Xylene	ug/L	50	44.8	90	70-130	
p-Isopropyltoluene	ug/L	50	45.5	91	70-130	
Styrene	ug/L	50	46.1	92	70-130	
Tetrachloroethene	ug/L	50	45.8	92	70-130	
Toluene	ug/L	50	45.3	91	70-130	
trans-1,2-Dichloroethene	ug/L	50	42.7	85	70-130	
trans-1,3-Dichloropropene	ug/L	50	44.2	88	70-132	
trans-1,4-Dichloro-2-butene	ug/L	50	53.3	107	70-141	
Trichloroethene	ug/L	50	47.7	95	70-130	
Trichlorofluoromethane	ug/L	50	45.0	90	62-133	
Vinyl acetate	ug/L	100	96.4	96	66-157	
Vinyl chloride	ug/L	50	42.9	86	69-130	
Xylene (Total)	ug/L	150	134	90	70-130	

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(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

LABORATORY CONTROL SAMPLE: 680213

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			96	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 680214 680215

Parameter	Units	92105073005 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	49.2	57.7	98	115	70-166	16	
Benzene	ug/L	ND	50	50	50.4	47.9	101	96	70-148	5	
Chlorobenzene	ug/L	ND	50	50	52.1	51.9	104	104	70-146	0	
Toluene	ug/L	ND	50	50	50.2	50.5	100	101	70-155	1	
Trichloroethene	ug/L	ND	50	50	54.2	50.9	108	102	69-151	6	
1,2-Dichloroethane-d4 (S)	%						99	113	70-130		
4-Bromofluorobenzene (S)	%						100	100	70-130		
Dibromofluoromethane (S)	%						97	104	70-130		
Toluene-d8 (S)	%						96	101	70-130		

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: MSV/17185 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92105069019, 92105069020

METHOD BLANK: 681422 | Matrix: Water
Associated Lab Samples: 92105069019, 92105069020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/02/11 11:36	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/02/11 11:36	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/02/11 11:36	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/02/11 11:36	
1,1-Dichloroethane	ug/L	ND	1.0	11/02/11 11:36	
1,1-Dichloroethene	ug/L	ND	1.0	11/02/11 11:36	
1,1-Dichloropropene	ug/L	ND	1.0	11/02/11 11:36	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/02/11 11:36	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/02/11 11:36	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/02/11 11:36	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	11/02/11 11:36	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/02/11 11:36	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/02/11 11:36	
1,2-Dichloroethane	ug/L	ND	1.0	11/02/11 11:36	
1,2-Dichloropropane	ug/L	ND	1.0	11/02/11 11:36	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/02/11 11:36	
1,3-Dichloropropane	ug/L	ND	1.0	11/02/11 11:36	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/02/11 11:36	
2,2-Dichloropropane	ug/L	ND	1.0	11/02/11 11:36	
2-Butanone (MEK)	ug/L	ND	5.0	11/02/11 11:36	
2-Chlorotoluene	ug/L	ND	1.0	11/02/11 11:36	
2-Hexanone	ug/L	ND	5.0	11/02/11 11:36	
4-Chlorotoluene	ug/L	ND	1.0	11/02/11 11:36	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/02/11 11:36	
Acetone	ug/L	ND	25.0	11/02/11 11:36	
Acrylonitrile	ug/L	ND	10.0	11/02/11 11:36	
Benzene	ug/L	ND	1.0	11/02/11 11:36	
Bromobenzene	ug/L	ND	1.0	11/02/11 11:36	
Bromochloromethane	ug/L	ND	1.0	11/02/11 11:36	
Bromodichloromethane	ug/L	ND	1.0	11/02/11 11:36	
Bromoform	ug/L	ND	1.0	11/02/11 11:36	
Bromomethane	ug/L	ND	2.0	11/02/11 11:36	
Carbon disulfide	ug/L	ND	2.0	11/02/11 11:36	
Carbon tetrachloride	ug/L	ND	1.0	11/02/11 11:36	
Chlorobenzene	ug/L	ND	1.0	11/02/11 11:36	
Chloroethane	ug/L	ND	1.0	11/02/11 11:36	
Chloroform	ug/L	ND	1.0	11/02/11 11:36	
Chloromethane	ug/L	ND	1.0	11/02/11 11:36	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/02/11 11:36	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/02/11 11:36	
Dibromochloromethane	ug/L	ND	1.0	11/02/11 11:36	
Dibromomethane	ug/L	ND	1.0	11/02/11 11:36	
Dichlorodifluoromethane	ug/L	ND	1.0	11/02/11 11:36	

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Pace Analytical Services, Inc.
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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

METHOD BLANK: 681422 Matrix: Water

Associated Lab Samples: 92105069019, 92105069020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/02/11 11:36	
Ethylbenzene	ug/L	ND	1.0	11/02/11 11:36	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/02/11 11:36	
Iodomethane	ug/L	ND	5.0	11/02/11 11:36	
m&p-Xylene	ug/L	ND	2.0	11/02/11 11:36	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/02/11 11:36	
Methylene Chloride	ug/L	ND	2.0	11/02/11 11:36	
Naphthalene	ug/L	ND	1.0	11/02/11 11:36	
o-Xylene	ug/L	ND	1.0	11/02/11 11:36	
p-Isopropyltoluene	ug/L	ND	1.0	11/02/11 11:36	
Styrene	ug/L	ND	1.0	11/02/11 11:36	
Tetrachloroethene	ug/L	ND	1.0	11/02/11 11:36	
Toluene	ug/L	ND	1.0	11/02/11 11:36	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/02/11 11:36	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/02/11 11:36	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	11/02/11 11:36	
Trichloroethene	ug/L	ND	1.0	11/02/11 11:36	
Trichlorofluoromethane	ug/L	ND	1.0	11/02/11 11:36	
Vinyl acetate	ug/L	ND	2.0	11/02/11 11:36	
Vinyl chloride	ug/L	ND	1.0	11/02/11 11:36	
Xylene (Total)	ug/L	ND	2.0	11/02/11 11:36	
1,2-Dichloroethane-d4 (S)	%	108	70-130	11/02/11 11:36	
4-Bromofluorobenzene (S)	%	94	70-130	11/02/11 11:36	
Dibromofluoromethane (S)	%	115	70-130	11/02/11 11:36	
Toluene-d8 (S)	%	96	70-130	11/02/11 11:36	

LABORATORY CONTROL SAMPLE: 681423

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.3	97	70-130	
1,1,1-Trichloroethane	ug/L	50	45.7	91	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	46.0	92	70-130	
1,1,2-Trichloroethane	ug/L	50	49.7	99	70-130	
1,1-Dichloroethane	ug/L	50	46.1	92	70-130	
1,1-Dichloroethene	ug/L	50	46.5	93	70-132	
1,1-Dichloropropene	ug/L	50	51.3	103	70-130	
1,2,3-Trichlorobenzene	ug/L	50	51.3	103	70-135	
1,2,3-Trichloropropane	ug/L	50	45.4	91	70-130	
1,2,4-Trichlorobenzene	ug/L	50	51.1	102	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	53.3	107	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	52.2	104	70-130	
1,2-Dichlorobenzene	ug/L	50	53.2	106	70-130	
1,2-Dichloroethane	ug/L	50	45.6	91	70-130	
1,2-Dichloropropane	ug/L	50	50.6	101	70-130	
1,3-Dichlorobenzene	ug/L	50	51.4	103	70-130	

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

LABORATORY CONTROL SAMPLE: 681423

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	51.0	102	70-130	
1,4-Dichlorobenzene	ug/L	50	48.1	96	70-130	
2,2-Dichloropropane	ug/L	50	48.9	98	58-145	
2-Butanone (MEK)	ug/L	100	107	107	70-145	
2-Chlorotoluene	ug/L	50	55.0	110	70-130	
2-Hexanone	ug/L	100	105	105	70-144	
4-Chlorotoluene	ug/L	50	53.1	106	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	109	109	70-140	
Acetone	ug/L	100	114	114	50-175	
Acrylonitrile	ug/L	250	249	100	70-143	
Benzene	ug/L	50	48.3	97	70-130	
Bromobenzene	ug/L	50	49.0	98	70-130	
Bromochloromethane	ug/L	50	44.8	90	70-130	
Bromodichloromethane	ug/L	50	47.9	96	70-130	
Bromoform	ug/L	50	50.6	101	70-130	
Bromomethane	ug/L	50	48.6	97	54-130	
Carbon disulfide	ug/L	50	40.2	80	70-131	
Carbon tetrachloride	ug/L	50	46.4	93	70-132	
Chlorobenzene	ug/L	50	48.6	97	70-130	
Chloroethane	ug/L	50	41.7	83	64-134	
Chloroform	ug/L	50	45.3	91	70-130	
Chloromethane	ug/L	50	41.2	82	64-130	
cis-1,2-Dichloroethene	ug/L	50	45.2	90	70-131	
cis-1,3-Dichloropropene	ug/L	50	51.4	103	70-130	
Dibromochloromethane	ug/L	50	47.9	96	70-130	
Dibromomethane	ug/L	50	48.9	98	70-131	
Dichlorodifluoromethane	ug/L	50	38.2	76	56-130	
Diisopropyl ether	ug/L	50	46.2	92	70-130	
Ethylbenzene	ug/L	50	50.3	101	70-130	
Hexachloro-1,3-butadiene	ug/L	50	54.3	109	70-130	
Iodomethane	ug/L	100	108	108	49-180	
m&p-Xylene	ug/L	100	99.1	99	70-130	
Methyl-tert-butyl ether	ug/L	50	48.5	97	70-130	
Methylene Chloride	ug/L	50	47.1	94	63-130	
Naphthalene	ug/L	50	51.6	103	70-138	
o-Xylene	ug/L	50	48.1	96	70-130	
p-Isopropyltoluene	ug/L	50	52.0	104	70-130	
Styrene	ug/L	50	49.9	100	70-130	
Tetrachloroethene	ug/L	50	50.9	102	70-130	
Toluene	ug/L	50	46.8	94	70-130	
trans-1,2-Dichloroethene	ug/L	50	44.7	89	70-130	
trans-1,3-Dichloropropene	ug/L	50	50.7	101	70-132	
trans-1,4-Dichloro-2-butene	ug/L	50	56.6	113	70-141	
Trichloroethene	ug/L	50	52.6	105	70-130	
Trichlorofluoromethane	ug/L	50	39.3	79	62-133	
Vinyl acetate	ug/L	100	122	122	66-157	
Vinyl chloride	ug/L	50	44.6	89	69-130	
Xylene (Total)	ug/L	150	147	98	70-130	

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Eden, NC 27288
(336)623-8921

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

LABORATORY CONTROL SAMPLE: 681423

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			95	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 681424 681425

Parameter	Units	92105069020 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	59.7	60.1	119	120	70-166	1	
Benzene	ug/L	ND	50	50	56.3	56.5	113	113	70-148	0	
Chlorobenzene	ug/L	ND	50	50	57.4	59.0	115	118	70-146	3	
Toluene	ug/L	ND	50	50	53.9	54.7	108	109	70-155	1	
Trichloroethene	ug/L	ND	50	50	51.5	51.8	103	104	69-151	1	
1,2-Dichloroethane-d4 (S)	%						111	111	70-130		
4-Bromofluorobenzene (S)	%						95	94	70-130		
Dibromofluoromethane (S)	%						113	114	70-130		
Toluene-d8 (S)	%						91	92	70-130		

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: MSV/17198
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92105069018

METHOD BLANK: 682215
Matrix: Water
Associated Lab Samples: 92105069018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/04/11 00:58	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/04/11 00:58	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/04/11 00:58	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/04/11 00:58	
1,1-Dichloroethane	ug/L	ND	1.0	11/04/11 00:58	
1,1-Dichloroethene	ug/L	ND	1.0	11/04/11 00:58	
1,1-Dichloropropene	ug/L	ND	1.0	11/04/11 00:58	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/04/11 00:58	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/04/11 00:58	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/04/11 00:58	
1,2-Dibromo-3-chloropropane	ug/L	ND	5.0	11/04/11 00:58	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/04/11 00:58	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/04/11 00:58	
1,2-Dichloroethane	ug/L	ND	1.0	11/04/11 00:58	
1,2-Dichloropropane	ug/L	ND	1.0	11/04/11 00:58	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/04/11 00:58	
1,3-Dichloropropane	ug/L	ND	1.0	11/04/11 00:58	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/04/11 00:58	
2,2-Dichloropropane	ug/L	ND	1.0	11/04/11 00:58	
2-Butanone (MEK)	ug/L	ND	5.0	11/04/11 00:58	
2-Chlorotoluene	ug/L	ND	1.0	11/04/11 00:58	
2-Hexanone	ug/L	ND	5.0	11/04/11 00:58	
4-Chlorotoluene	ug/L	ND	1.0	11/04/11 00:58	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	11/04/11 00:58	
Acetone	ug/L	ND	25.0	11/04/11 00:58	
Acrylonitrile	ug/L	ND	10.0	11/04/11 00:58	
Benzene	ug/L	ND	1.0	11/04/11 00:58	
Bromobenzene	ug/L	ND	1.0	11/04/11 00:58	
Bromochloromethane	ug/L	ND	1.0	11/04/11 00:58	
Bromodichloromethane	ug/L	ND	1.0	11/04/11 00:58	
Bromoform	ug/L	ND	1.0	11/04/11 00:58	
Bromomethane	ug/L	ND	2.0	11/04/11 00:58	
Carbon disulfide	ug/L	ND	2.0	11/04/11 00:58	
Carbon tetrachloride	ug/L	ND	1.0	11/04/11 00:58	
Chlorobenzene	ug/L	ND	1.0	11/04/11 00:58	
Chloroethane	ug/L	ND	1.0	11/04/11 00:58	
Chloroform	ug/L	ND	1.0	11/04/11 00:58	
Chloromethane	ug/L	ND	1.0	11/04/11 00:58	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/04/11 00:58	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/04/11 00:58	
Dibromochloromethane	ug/L	ND	1.0	11/04/11 00:58	
Dibromomethane	ug/L	ND	1.0	11/04/11 00:58	
Dichlorodifluoromethane	ug/L	ND	1.0	11/04/11 00:58	

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

METHOD BLANK: 682215 Matrix: Water

Associated Lab Samples: 92105069018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	11/04/11 00:58	
Ethylbenzene	ug/L	ND	1.0	11/04/11 00:58	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/04/11 00:58	
Iodomethane	ug/L	ND	5.0	11/04/11 00:58	
m&p-Xylene	ug/L	ND	2.0	11/04/11 00:58	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/04/11 00:58	
Methylene Chloride	ug/L	ND	2.0	11/04/11 00:58	
Naphthalene	ug/L	ND	1.0	11/04/11 00:58	
o-Xylene	ug/L	ND	1.0	11/04/11 00:58	
p-Isopropyltoluene	ug/L	ND	1.0	11/04/11 00:58	
Styrene	ug/L	ND	1.0	11/04/11 00:58	
Tetrachloroethene	ug/L	ND	1.0	11/04/11 00:58	
Toluene	ug/L	ND	1.0	11/04/11 00:58	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/04/11 00:58	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/04/11 00:58	
trans-1,4-Dichloro-2-butene	ug/L	ND	1.0	11/04/11 00:58	
Trichloroethene	ug/L	ND	1.0	11/04/11 00:58	
Trichlorofluoromethane	ug/L	ND	1.0	11/04/11 00:58	
Vinyl acetate	ug/L	ND	2.0	11/04/11 00:58	
Vinyl chloride	ug/L	ND	1.0	11/04/11 00:58	
Xylene (Total)	ug/L	ND	2.0	11/04/11 00:58	
1,2-Dichloroethane-d4 (S)	%	118	70-130	11/04/11 00:58	
4-Bromofluorobenzene (S)	%	93	70-130	11/04/11 00:58	
Dibromofluoromethane (S)	%	123	70-130	11/04/11 00:58	
Toluene-d8 (S)	%	96	70-130	11/04/11 00:58	

LABORATORY CONTROL SAMPLE: 682216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.1	100	70-130	
1,1,1-Trichloroethane	ug/L	50	48.7	97	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	46.7	93	70-130	
1,1,2-Trichloroethane	ug/L	50	50.4	101	70-130	
1,1-Dichloroethane	ug/L	50	47.1	94	70-130	
1,1-Dichloroethene	ug/L	50	48.5	97	70-132	
1,1-Dichloropropene	ug/L	50	49.9	100	70-130	
1,2,3-Trichlorobenzene	ug/L	50	50.6	101	70-135	
1,2,3-Trichloropropane	ug/L	50	47.3	95	70-130	
1,2,4-Trichlorobenzene	ug/L	50	48.8	98	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	53.9	108	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	52.2	104	70-130	
1,2-Dichlorobenzene	ug/L	50	53.7	107	70-130	
1,2-Dichloroethane	ug/L	50	48.5	97	70-130	
1,2-Dichloropropane	ug/L	50	49.6	99	70-130	
1,3-Dichlorobenzene	ug/L	50	51.7	103	70-130	

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Asheville, NC 28804
(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

LABORATORY CONTROL SAMPLE: 682216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	51.4	103	70-130	
1,4-Dichlorobenzene	ug/L	50	48.4	97	70-130	
2,2-Dichloropropane	ug/L	50	44.2	88	58-145	
2-Butanone (MEK)	ug/L	100	102	102	70-145	
2-Chlorotoluene	ug/L	50	54.5	109	70-130	
2-Hexanone	ug/L	100	99.6	100	70-144	
4-Chlorotoluene	ug/L	50	52.8	106	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	70-140	
Acetone	ug/L	100	113	113	50-175	
Acrylonitrile	ug/L	250	252	101	70-143	
Benzene	ug/L	50	48.0	96	70-130	
Bromobenzene	ug/L	50	49.5	99	70-130	
Bromochloromethane	ug/L	50	45.7	91	70-130	
Bromodichloromethane	ug/L	50	49.8	100	70-130	
Bromoform	ug/L	50	50.5	101	70-130	
Bromomethane	ug/L	50	46.6	93	54-130	
Carbon disulfide	ug/L	50	40.2	80	70-131	
Carbon tetrachloride	ug/L	50	49.3	99	70-132	
Chlorobenzene	ug/L	50	50.2	100	70-130	
Chloroethane	ug/L	50	41.0	82	64-134	
Chloroform	ug/L	50	47.1	94	70-130	
Chloromethane	ug/L	50	42.4	85	64-130	
cis-1,2-Dichloroethene	ug/L	50	45.5	91	70-131	
cis-1,3-Dichloropropene	ug/L	50	50.2	100	70-130	
Dibromochloromethane	ug/L	50	49.6	99	70-130	
Dibromomethane	ug/L	50	49.2	98	70-131	
Dichlorodifluoromethane	ug/L	50	37.4	75	56-130	
Diisopropyl ether	ug/L	50	45.8	92	70-130	
Ethylbenzene	ug/L	50	51.1	102	70-130	
Hexachloro-1,3-butadiene	ug/L	50	51.4	103	70-130	
Iodomethane	ug/L	100	110	110	49-180	
m&p-Xylene	ug/L	100	102	102	70-130	
Methyl-tert-butyl ether	ug/L	50	48.8	98	70-130	
Methylene Chloride	ug/L	50	50.5	101	63-130	
Naphthalene	ug/L	50	52.7	105	70-138	
o-Xylene	ug/L	50	48.8	98	70-130	
p-Isopropyltoluene	ug/L	50	50.2	100	70-130	
Styrene	ug/L	50	50.2	100	70-130	
Tetrachloroethene	ug/L	50	50.6	101	70-130	
Toluene	ug/L	50	47.6	95	70-130	
trans-1,2-Dichloroethene	ug/L	50	45.7	91	70-130	
trans-1,3-Dichloropropene	ug/L	50	49.9	100	70-132	
trans-1,4-Dichloro-2-butene	ug/L	50	61.7	123	70-141	
Trichloroethene	ug/L	50	54.3	109	70-130	
Trichlorofluoromethane	ug/L	50	42.3	85	62-133	
Vinyl acetate	ug/L	100	118	118	66-157	
Vinyl chloride	ug/L	50	46.7	93	69-130	
Xylene (Total)	ug/L	150	151	101	70-130	

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(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

LABORATORY CONTROL SAMPLE: 682216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			96	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 682217 682218

Parameter	Units	92105069018 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	64.2	63.4	128	127	70-166	1	
Benzene	ug/L	ND	50	50	56.7	56.0	113	112	70-148	1	
Chlorobenzene	ug/L	ND	50	50	59.7	58.4	119	117	70-146	2	
Toluene	ug/L	ND	50	50	55.4	54.6	111	109	70-155	1	
Trichloroethene	ug/L	ND	50	50	52.9	51.6	106	103	69-151	2	
1,2-Dichloroethane-d4 (S)	%						111	114	70-130		
4-Bromofluorobenzene (S)	%						93	93	70-130		
Dibromofluoromethane (S)	%						113	113	70-130		
Toluene-d8 (S)	%						91	91	70-130		

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: WET/18372
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 92105069022

METHOD BLANK: 677896
Matrix: Water
Associated Lab Samples: 92105069022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/31/11 09:45	

LABORATORY CONTROL SAMPLE: 677897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	169	85	84-115	

SAMPLE DUPLICATE: 677933

Parameter	Units	92105045001 Result	Dup Result	RPD	Qualifiers
BOD, 5 day	mg/L	179	182	2	

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: WETA/10842
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 92105069022

METHOD BLANK: 677993
Matrix: Water
Associated Lab Samples: 92105069022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	10/29/11 00:33	

LABORATORY CONTROL SAMPLE: 677994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.5	97	90-110	

MATRIX SPIKE SAMPLE: 677995

Parameter	Units	92104701006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	19.6	89	90-110	M1

MATRIX SPIKE SAMPLE: 677997

Parameter	Units	92104972011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	23.7	20	40.1	82	90-110	M1

SAMPLE DUPLICATE: 677996

Parameter	Units	92104701006 Result	Dup Result	RPD	Qualifiers
Sulfate	mg/L	ND	ND		

SAMPLE DUPLICATE: 677998

Parameter	Units	92104972011 Result	Dup Result	RPD	Qualifiers
Sulfate	mg/L	23.7	23.7	0	

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: WETA/10846
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 92105069022

METHOD BLANK: 678433
Matrix: Water
Associated Lab Samples: 92105069022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.20	10/26/11 22:15	
Nitrogen, Nitrite	mg/L	ND	0.10	10/26/11 22:15	
Nitrogen, NO2 plus NO3	mg/L	ND	0.20	10/26/11 22:15	

LABORATORY CONTROL SAMPLE: 678434

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	5	5.0	100	90-110	
Nitrogen, Nitrite	mg/L	1	1.1	109	90-110	
Nitrogen, NO2 plus NO3	mg/L	5	5.0	100	90-110	

MATRIX SPIKE SAMPLE: 678437

Parameter	Units	92105069022 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.85	5	6.2	106	90-110	
Nitrogen, Nitrite	mg/L	0.17	1	1.3	111	90-110	M1
Nitrogen, NO2 plus NO3	mg/L	1.0	5	6.2	103	90-110	

SAMPLE DUPLICATE: 678438

Parameter	Units	92105069022 Result	Dup Result	RPD	Qualifiers
Nitrogen, Nitrate	mg/L	0.85	0.83	2	
Nitrogen, Nitrite	mg/L	0.17	0.18	6	
Nitrogen, NO2 plus NO3	mg/L	1.0	1.0	1	

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QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: WETA/10896
QC Batch Method: EPA 365.1
Analysis Method: EPA 365.1
Analysis Description: 365.1 Phosphorus, Total
Associated Lab Samples: 92105069022

METHOD BLANK: 682788
Matrix: Water
Associated Lab Samples: 92105069022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	mg/L	ND	0.050	11/08/11 08:43	

LABORATORY CONTROL SAMPLE: 682789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	2.5	2.4	95	90-110	

MATRIX SPIKE SAMPLE: 682790

Parameter	Units	92105045004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	591	2.5	532	-2339	90-110	M6

MATRIX SPIKE SAMPLE: 682792

Parameter	Units	92105298009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	1.6	2.5	3.8	90	90-110	

SAMPLE DUPLICATE: 682791

Parameter	Units	92105069022 Result	Dup Result	RPD	Qualifiers
Phosphorus	mg/L	1.2	1.3	6	

SAMPLE DUPLICATE: 682793

Parameter	Units	92105298010 Result	Dup Result	RPD	Qualifiers
Phosphorus	mg/L	1.1	1.1	1	

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Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

QUALITY CONTROL DATA

Project: WhiteOak LF
Pace Project No.: 92105069

QC Batch: WETA/10903
QC Batch Method: SM 5220D
Analysis Method: SM 5220D
Analysis Description: 5220D COD
Associated Lab Samples: 92105069022

METHOD BLANK: 683258
Matrix: Water
Associated Lab Samples: 92105069022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	11/04/11 23:00	

LABORATORY CONTROL SAMPLE: 683259

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	750	745	99	90-110	

MATRIX SPIKE SAMPLE: 683260

Parameter	Units	92104991001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	70.0	750	755	91	75-125	

MATRIX SPIKE SAMPLE: 683262

Parameter	Units	92105017001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	112	750	822	95	75-125	

SAMPLE DUPLICATE: 683261

Parameter	Units	92104991001 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	70.0	70.0	0	

SAMPLE DUPLICATE: 683263

Parameter	Units	92105017001 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	112	110	2	

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QUALIFIERS

Project: WhiteOak LF
Pace Project No.: 92105069

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.

SG - Silica Gel - Clean-Up

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

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 3

1525634

Section A Required Client Information:

Company: Haywood Co Solid Waste
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Stephen King
Copy To:
Purchase Order No.:
Project Name: White OAK LANDFILL
Project Number:

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: NC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): Analysis Test: FLD / Sta. Hrs; VOC; Ann. Tempt 11

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	FLD / Sta. Hrs	VOC	Ann. Tempt 11	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92105069
1	MW-1					10-25	945		4			1	3					X	X	X		92105069001
2	MW-2					10-25	1000		4			1	3					X	X	X		92105069002
3	MW-2D					10-25	1015		4			1	3					X	X	X		92105069003
4	MW-3R					10-25	1145		4			1	3					X	X	X		92105069004
5	MW-3DR					10-25	1155		4			1	3					X	X	X		92105069005
6	MW-4A					10-25	1355		4			1	3					X	X	X		92105069006
7	MW-8					10-25	1350		4			1	3					X	X	X		92105069007
8	MW-11S					10-25	1410		4			1	3					X	X	X		92105069008
9	MW-11D					10-25	1425		4			1	3					X	X	X		92105069009
10	MW-14					10-25	1525		4			1	3					X	X	X		92105069010
11	MW-15					10-25	1500		4			1	3					X	X	X		92105069011
12	MW-16					10-25	1320		4			1	3					X	X	X		92105069012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		10-25-11	1545	[signature]	10-25-11	1545				
	[signature]	10-25-11	1630	[signature]	10/25/11	16:30	2.9	X	~	X

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

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MARK P. SWANN

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10-25-11

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

1525633

Section A Required Client Information:

Company: HARWOOD CO SOLIDUS
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Stephen King
Copy To:
Purchase Order No.:
Project Name: WhiteOAK LF
Project Number:

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: NC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test: FLA	VOC	Metals	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-17					10-25	1305		4				3					X	X	X		92105069 0013
2	TVC BLK					10-24			3				3						X			92105069 0014
3	EQUIP BLK					10-25			3			1	2						X	X		92105069 015
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		10-25-11	1545	[signature] Lab	10.25	1545				
	[signature] Lab	10-25-11	1630	[signature]	10/25/11	16:30	2.9	T	~	T

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: MARK SWANT
SIGNATURE of SAMPLER: [signature] Lab DATE Signed (MM/DD/YY): 10-25-11

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 3 of 3

1525637

Section A Required Client Information:

Company: Hardwood Solid Waste
Address:
Email To:
Phone: 627 8042 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

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

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: _____

Section D Required Client Information

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

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): Fecal	VOC	Metals	BOD	~~TSS~~ Lod	SO4 ~~Free~~	NO_2/NO_3 (vmc)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92105069
1	SW-1					10-25	1030		4			1	3					X	X	X						92105069016
2	SW-2					10-25	1050		4			1	3					X	X	X						92105069017
3	SW-3					10-25	1130		4			1	3					X	X	X						92105069018
4	SW-5					10-25	1255		4			1	3					X	X	X						92105069019
5	SW-6					10-25	1430		4			1	3					X	X	X						92105069020
6	SW-7					10-25	1445		4			1	3					X	X	X						92105069021
7	Leachate					10-25	1410		4			1	3					X	X	X	X	X	X	X		92105069022
8																										
9	Settling Pond					10-25-11	1105		4			1	3					X	X	X						92105069023
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		10-25-11	~~1655~~	[signature]	10-25-11	1545				
	[signature]	10-25-11	1630	[signature]	10/25/11	16:30	2.9	Y	N	X

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MARK C. SWANN

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10-25-11

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

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

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

Pace Analytical® www.pacelabs.com	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: July 20, 2011 Page 1 of 2
	Document No.: F-ASV-CS-003-rev.06	Issuing Authorities: Pace Asheville Quality Office

Client Name: Haywood Co Solid Wast Project # 92105069

Where Received: ☐ Huntersville ☑ Asheville ☐ Eden

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

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

Optional
Proj. Due Date:
Proj. Name:

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

Thermometer Used: IR Gun#2 -80344039 **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0.2 C

Corrected Cooler Temp.: 2.9 C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 10/25/11

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: TDM Date: 10/27/11 SRF Review: TDM Date: 10/27/11

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

Pace Analytical www.pacelabs.com	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: July 20, 2011 Page 1 of 2
	Document No.: F-ASV-CS-003-rev.06	Issuing Authorities: Pace Asheville Quality Office

Client Name: Haywood C. Soldiers Project # 92105009

Where Received: ☐ Huntersville ☑ Asheville ☐ Eden

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

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

Optional
Proj. Due Date:
Proj. Name:

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

Thermometer Used: IR Gun#2 -80344039 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0.2 C

Corrected Cooler Temp.: 2.9 C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 10/25/11

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: [signature] Date: 10/27/11 SRF Review: [signature] Date: 10/27/11

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

APPENDIX D

STATISTICAL CALCULATIONS

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

COMPOUND	TOTAL	ND	DETECTED	%ND	STATISTICAL TEST
Total Antimony	231	225	6	97.4%	Poisson Prediction Limits
Total Arsenic	231	204	27	88.3%	Kruskal-Wallis
Total Barium *	234	16	218	6.8%	Kruskal-Wallis
Total Beryllium	232	189	43	81.5%	Kruskal-Wallis
Total Cadmium	232	194	38	83.6%	Kruskal-Wallis
Total Chromium	232	108	124	46.6%	Kruskal-Wallis
Total Cobalt	232	140	92	60.3%	Kruskal-Wallis
Total Copper	232	126	106	54.3%	Kruskal-Wallis
Total Lead	233	159	74	68.2%	Kruskal-Wallis
Total Nickel	233	104	129	44.6%	Kruskal-Wallis
Total Selenium	232	228	4	98.3%	Poisson Prediction Limits
Total Silver	232	229	3	98.7%	Poisson Prediction Limits
Total Thallium	232	214	18	92.2%	Poisson Prediction Limits
Total Vanadium	232	111	121	47.8%	Kruskal-Wallis
Total Zinc	232	63	169	27.2%	Kruskal-Wallis
Acetone	181	180	1	99.4%	Poisson Prediction Limits
Carbon Disulfide	181	178	3	98.3%	Poisson Prediction Limits
2-Butanone	181	180	1	99.4%	Poisson Prediction Limits

Sampling Event	# Detected
N 1	64
N 2	13
N 3	14
N 4	3
N 5	64
N 6	0
N 7	0
N 8	0
N 9	0
N 10	53
N 11	88
N 12	59
N 13	55
N 14	74
N 15	49
N 16	61
N 17	60
N 18	28
N 19	38
N 20	43
N 21	57
N 22	52
N 23	58
N 24	55
N 25	37
N 26	27
N 27	42
N 28	34
N29	49

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) =	1177
Total Detected Concentrations (per event) =	1177
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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	NS	**10**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**30**
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	**10**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**30**
04/15/02	**15**	ND	NS	ND	ND	ND	NT	ND	ND	**11**	NS	**10**
09/26/02	ND	ND	ND	**12**	ND	ND	ND	ND	ND	ND	**98**	**10**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/20/04	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	**5**
04/18/05	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	**5**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**30**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/25/07	ND	ND	ND	ND	ND	**20**	ND	ND	ND	ND	ND	**6**
10/31/07	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	**5**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**5**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	**5**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**5**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/25/11	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	-
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	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-
04/15/02	15	5	-	5	5	5	-	5	5	11	-
09/26/02	5	5	5	12	5	5	5	5	5	5	98
04/28/03	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
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
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
04/18/05	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
04/25/06	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
04/25/07	3	3	3	3	3	20	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
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
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
04/22/09	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-
10/26/09	2.5	2.5	2.5	2.5	2.5	2.5	-	-	-	2.5	2.5
04/22/10	2.5	2.5	2.5	2.5	2.5	2.5	-	-	2.5	2.5	2.5
10/27/10	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/29/11	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
10/25/11				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' = 23.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 62$
$T_{n1} = 241.5$

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).

$k = 8$
$n = 62$
$T_{n1} = 241.5$
$t\,[61,.01] = 2.3895$
$c = 0.1290$
$T_{n2} = 20$
$T^*_k = 45.7$

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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	NS	**10**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**10**
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	**10**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
04/15/02	ND	ND	NS	ND	ND	ND	NT	ND	ND	ND	NS	**10**
09/26/02	ND	**5.7**	ND	ND	ND	ND	ND	ND	**27**	ND	**68**	**5**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**24**	**5**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	**5.3**	**81**	**5**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7.4**	**30**	**5**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**59**	**5**
04/18/05	ND	ND	ND	**10**	ND	ND	ND	ND	ND	**5.2**	**65**	**5**
10/13/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**44**	**5**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**42**	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**13**	**5**
04/25/07	ND	ND	ND	ND	ND	**280**	ND	ND	ND	ND	**12**	**5**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**21.4**	**5**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10.2**	**5**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6.6**	**5**
04/22/09	ND	ND	**5.4**	ND	ND	**5.6**	ND	ND	ND	ND	NS	**5**
10/26/09	ND	ND	ND	ND	**6**	ND	NS	NS	NS	ND	ND	**5**
04/22/10	ND	ND	ND	ND	**7.4**	**9.8**	NS	NS	ND	ND	ND	**5**
10/27/10	ND	ND	ND	ND	**5.4**	**5.9**	ND	ND	ND	ND	ND	**5**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/25/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
N_i	24	23	18	22	22	22	19	20	21	22	18	
sum of rank values (R_i)	2460.0	2465.0	1950.0	2369.5	2581.5	2712.0	1947.5	2050.0	2273.0	2573.0	3414.5	
avg rank value (Rbar)	102.5	107.2	108.3	107.7	117.3	123.3	102.5	102.5	108.2	117.0	189.7	

	Number of each rank value											Rank Value
rank value of NDs =	24	22	17	21	19	18	19	20	20	19	5	102.5
rank value of 5.2s =	0	0	0	0	0	0	0	0	0	1	0	205
rank value of 5.3s =	0	0	0	0	0	0	0	0	0	1	0	206
rank value of 5.4s =	0	0	1	0	1	0	0	0	0	0	0	207.5
rank value of 5.6s =	0	0	0	0	0	1	0	0	0	0	0	209
rank value of 5.7s =	0	1	0	0	0	0	0	0	0	0	0	210
rank value of 5.9s =	0	0	0	0	0	1	0	0	0	0	0	211
rank value of 6s =	0	0	0	0	1	0	0	0	0	0	0	212
rank value of 6.6s =	0	0	0	0	0	0	0	0	0	0	1	213
rank value of 7.4s =	0	0	0	0	1	0	0	0	0	1	0	214.5
rank value of 9.8s =	0	0	0	0	0	1	0	0	0	0	0	216
rank value of 10s =	0	0	0	1	0	0	0	0	0	0	0	217
rank value of 10.2s =	0	0	0	0	0	0	0	0	0	0	1	218
rank value of 12s =	0	0	0	0	0	0	0	0	0	0	1	219

rank value of 13s =	0	0	0	0	0	0	0	0	0	0	1	220
rank value of 21.4s =	0	0	0	0	0	0	0	0	0	0	1	221
rank value of 24s =	0	0	0	0	0	0	0	0	0	0	1	222
rank value of 27s =	0	0	0	0	0	0	0	0	1	0	0	223
rank value of 30s =	0	0	0	0	0	0	0	0	0	0	1	224
rank value of 42s =	0	0	0	0	0	0	0	0	0	0	1	225
rank value of 44s =	0	0	0	0	0	0	0	0	0	0	1	226
rank value of 59s =	0	0	0	0	0	0	0	0	0	0	1	227
rank value of 65s =	0	0	0	0	0	0	0	0	0	0	1	228
rank value of 68s =	0	0	0	0	0	0	0	0	0	0	1	229
rank value of 81s =	0	0	0	0	0	0	0	0	0	0	1	230
rank value of 280s =	0	0	0	0	0	1	0	0	0	0	0	231
n =	**24**	**23**	**18**	**22**	**22**	**22**	**19**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

2460	2255	1742.5	2152.5	1947.5	1845	1947.5	2050	2050	1947.5	512.5
0	0	0	0	0	0	0	0	0	205	0
0	0	0	0	0	0	0	0	0	206	0
0	0	207.5	0	207.5	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	211	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	213
0	0	0	0	214.5	0	0	0	0	214.5	0
0	0	0	0	0	216	0	0	0	0	0
0	0	0	217	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	218
0	0	0	0	0	0	0	0	0	0	219
0	0	0	0	0	0	0	0	0	0	220
0	0	0	0	0	0	0	0	0	0	221
0	0	0	0	0	0	0	0	0	0	222
0	0	0	0	0	0	0	0	223	0	0
0	0	0	0	0	0	0	0	0	0	224
0	0	0	0	0	0	0	0	0	0	225
0	0	0	0	0	0	0	0	0	0	226
0	0	0	0	0	0	0	0	0	0	227
0	0	0	0	0	0	0	0	0	0	228
0	0	0	0	0	0	0	0	0	0	229
0	0	0	0	0	0	0	0	0	0	230
0	0	0	0	0	231	0	0	0	0	0

sum of rank values (R_i)	**2460**	**2465**	**1950**	**2369.5**	**2581.5**	**2712**	**1947.5**	**2050**	**2273**	**2573**	**3414.5**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	727163.5	255206	302916	334316	199619	210125	246025	300924	647712

$N_{i\ bg}$ = 65
N = 231
H = 25.90

Adjust H for ties:

T_i = 8E+06 sum of T1..T3

$H' = H/(1-(T_i/(N^3-N)))$
H' = 83.21
Chi-square = 15.51

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 15.51 which is less than H' =83.21.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	**MW-15**
Rbar (well x) =	107.7	117.3	123.3	102.5	102.5	108.2	117.0	189.7
avg Rbar (background) =	105.8	105.8	105.8	105.8	105.8	105.8	105.8	105.8
Dx =	1.9	11.6	17.5	-3.3	-3.3	2.5	11.2	83.9
Cx =	38.4	38.4	38.4	40.6	39.8	39.1	38.4	41.5
Statistical Significance ?	No	No	No	No	No	No	No	**Yes**
If SSI, is current event above MCL?	-	-	-	-	-	-	-	No

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

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**68**	**5**
4/28/2003	**24**	**5**
10/30/2003	**81**	**5**
4/20/2004	**30**	**5**
10/21/2004	**59**	**5**
4/18/2005	**65**	**5**
10/13/2005	**44**	**5**
4/25/2006	**42**	**10**
10/20/2006	**13**	**5**
4/25/2007	**12**	**5**
10/31/2007	**21.4**	**5**
4/23/2008	**10.2**	**5**
10/20/2008	**6.6**	**5**
4/22/2009	NS	**5**
10/26/2009	ND	**5**
4/22/2010	ND	**5**
10/27/2010	ND	**5**
4/29/2011	ND	**5**
10/25/2011	ND	**5**

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

	X_i values =
68	68167.314
24	-31.25588
81	156155.44
30	23.149125
59	32309.357
65	54224.762
44	4784.0941
42	3274.7591
13	-2833.148
12	-3477.266
21.4	-190.1094
10.2	-4869.777
6.6	-8678.316
2.5	-14977.89
2.5	-14977.89
2.5	-14977.89
2.5	-14977.89
2.5	-14977.89

X_{bar} =	27.15
SD =	26.288675
N =	18
$1/N\Sigma_i(X_i-X_{bar})^3$ =	12442.752
γ_1=	0.7461837

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 = 4.2195077	3.7964114
3.1780538	0.1394314
4.3944492	5.222206
3.4011974	0.4080051
4.0775374	2.8513822
4.1743873	3.4764323
3.7841896	1.4226184
3.7376696	1.2532889
2.5649494	-0.000845
2.4849066	-0.005323
3.0633909	0.0658818
2.3223877	-0.038314
1.8870696	-0.460884
0.9162907	-5.297303
0.9162907	-5.297303
0.9162907	-5.297303
0.9162907	-5.297303

0.9162907	-5.297303

X_{bar} = 2.6595083
SD = 1.3084007
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.464235
γ_1= 0.2258139

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

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**68**	5	68
4/28/2003	**24**	5	24
10/30/2003	**81**	5	81
4/20/2004	**30**	5	30
10/21/2004	**59**	5	59
4/18/2005	**65**	5	65
10/13/2005	**44**	5	44
4/25/2006	**42**	10	42
10/20/2006	**13**	5	13
4/25/2007	**12**	5	12
10/31/2007	**21.4**	5	21.4
4/23/2008	**10.2**	5	10.2
10/20/2008	**6.6**	5	6.6
4/22/2009	NS	5	-
10/26/2009	ND	5	2.5
4/22/2010	ND	5	2.5
10/27/2010	ND	5	2.5
4/29/2011	ND	5	2.5
10/25/2011	ND	5	2.5

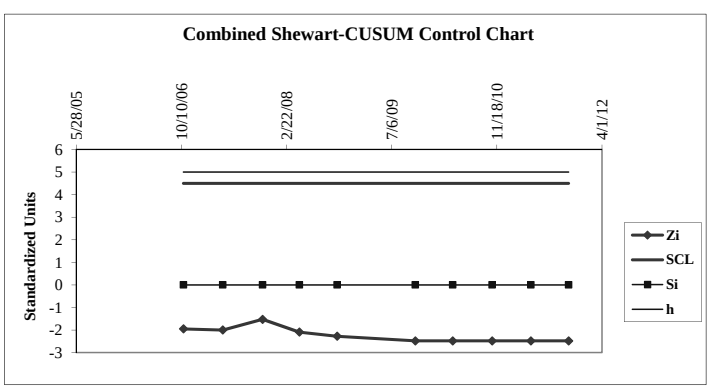
Compute the mean and standard deviation of the historical data:

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

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

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	13	-1.9501909	0	5	4.5
4/25/2007	12	-2.0006813	0	5	4.5
10/31/2007	21.4	-1.5260717	0	5	4.5
4/23/2008	10.2	-2.091564	0	5	4.5
10/20/2008	6.6	-2.2733294	0	5	4.5
10/26/2009	2.5	-2.4803399	0	5	4.5
4/22/2010	2.5	-2.4803399	0	5	4.5
10/27/2010	2.5	-2.4803399	0	5	4.5
4/29/2011	2.5	-2.4803399	0	5	4.5
10/25/2011	2.5	-2.4803399	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h.

The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**250**	NS	NS	**240**	**420**	**200**	**63**	**300**	**93**	**230**	NS	**5**
06/26/00	**300**	**67**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
07/26/00	**330**	**30**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
09/18/00	NS	NS	NS	**330**	**92**	NS	NS	NS	NT	NS	NS	**500**
04/09/01	**1300**	**380**	NS	**180**	**330**	**120**	**80**	**290**	**360**	**970**	NS	**5**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**500**
04/15/02	**1300**	**41**	NS	ND	ND	**160**	**23**	**190**	**460**	**1400**	NS	**5**
09/26/02	**330**	**500**	**750**	**4200**	**120**	**230**	**93**	**410**	**910**	**1400**	**11000**	**5**
04/28/03	**600**	**66**	**220**	**1800**	**160**	**140**	**110**	**92**	**360**	**800**	**2800**	**5**
10/30/03	**320**	**100**	NT	**210**	**310**	**130**	**95**	**110**	**1200**	**270**	**4900**	**5**
04/20/04	**320**	**56**	**120**	**410**	**460**	**170**	**140**	**210**	**62**	**940**	**2000**	**5**
10/21/04	**320**	**40**	**200**	**300**	**310**	**140**	**140**	**130**	**12**	**900**	**4900**	**5**
04/18/05	**480**	**55**	**160**	**7200**	**610**	**180**	**160**	**140**	**12**	**1000**	**3700**	**5**
10/13/05	**770**	**37**	**160**	**1700**	**870**	**250**	**160**	**140**	**27**	**810**	**2700**	**5**
04/25/06	**650**	ND	ND	ND	**1100**	ND	ND	ND	ND	**750**	**2700**	**500**
10/20/06	**410**	**22**	**180**	**470**	**1100**	ND	ND	ND	**160**	ND	**650**	**5**
04/25/07	**290**	ND	**200**	**240**	**1300**	**1500**	**130**	**180**	ND	ND	**600**	**100**
10/31/07	**501**	**31.5**	**223**	**198**	**1350**	**591**	**184**	**208**	**62.4**	**516**	**872**	**5**
04/23/08	**194**	**30.8**	**253**	**168**	**1230**	**661**	**216**	**202**	**61.8**	**151**	**361**	**5**
10/20/08	**474**	**66**	**313**	**224**	**1210**	**894**	**164**	**216**	**41.1**	**182**	**245**	**5**
04/22/09	**126**	**47.2**	**591**	**309**	**1300**	**817**	**230**	**216**	**77**	**163**	NS	**5**
10/26/09	**131**	**16.8**	**144**	**188**	**1720**	**987**	NS	NS	NS	**209**	**178**	**5**
04/22/10	**208**	**43.5**	**153**	**157**	**1920**	**1380**	NS	NS	**20.9**	**150**	**74.8**	**5**
10/27/10	**147**	**15.8**	**162**	**178**	**1760**	**1550**	**531**	**234**	**20**	**190**	**111**	**5**
04/29/11	**191**	**16.3**	**188**	**182**	**1620**	**1390**	**428**	**173**	**13.6**	**196**	**125**	**5**
10/25/11	**185**	**19.7**	**120**	**332**	**1200**	**1300**	**945**	**205**	**8.2**	**238**	**123**	**5**
N_i	24	23	18	23	23	22	20	20	21	22	18	
sum of rank values (R_i)	3500.5	1012.0	1895.5	3078.0	3900.0	2972.0	1684.0	1955.5	1407.5	3073.5	3016.5	
avg rank value (Rbar)	145.9	44.0	105.3	133.8	169.6	135.1	84.2	97.8	67.0	139.7	167.6	

	Number of each rank value											Rank Value
rank value of NDs =	0	2	1	2	1	2	2	2	2	2	0	8.5
rank value of 8.2s =	0	0	0	0	0	0	0	0	1	0	0	17
rank value of 12s =	0	0	0	0	0	0	0	0	2	0	0	18.5
rank value of 13.6s =	0	0	0	0	0	0	0	0	1	0	0	20
rank value of 15.8s =	0	1	0	0	0	0	0	0	0	0	0	21
rank value of 16.3s =	0	1	0	0	0	0	0	0	0	0	0	22
rank value of 16.8s =	0	1	0	0	0	0	0	0	0	0	0	23
rank value of 19.7s =	0	1	0	0	0	0	0	0	0	0	0	24
rank value of 20s =	0	0	0	0	0	0	0	0	1	0	0	25
rank value of 20.9s =	0	0	0	0	0	0	0	0	1	0	0	26
rank value of 22s =	0	1	0	0	0	0	0	0	0	0	0	27
rank value of 23s =	0	0	0	0	0	0	1	0	0	0	0	28
rank value of 27s =	0	0	0	0	0	0	0	0	1	0	0	29
rank value of 30s =	0	1	0	0	0	0	0	0	0	0	0	30
rank value of 30.8s =	0	1	0	0	0	0	0	0	0	0	0	31
rank value of 31.5s =	0	1	0	0	0	0	0	0	0	0	0	32
rank value of 37s =	0	1	0	0	0	0	0	0	0	0	0	33
rank value of 40s =	0	1	0	0	0	0	0	0	0	0	0	34
rank value of 41s =	0	1	0	0	0	0	0	0	0	0	0	35
rank value of 41.1s =	0	0	0	0	0	0	0	0	1	0	0	36
rank value of 43.5s =	0	1	0	0	0	0	0	0	0	0	0	37
rank value of 47.2s =	0	1	0	0	0	0	0	0	0	0	0	38
rank value of 55s =	0	1	0	0	0	0	0	0	0	0	0	39
rank value of 56s =	0	1	0	0	0	0	0	0	0	0	0	40
rank value of 61.8s =	0	0	0	0	0	0	0	0	1	0	0	41
rank value of 62s =	0	0	0	0	0	0	0	0	1	0	0	42
rank value of 62.4s =	0	0	0	0	0	0	0	0	1	0	0	43
rank value of 63s =	0	0	0	0	0	0	1	0	0	0	0	44
rank value of 66s =	0	2	0	0	0	0	0	0	0	0	0	45.5
rank value of 67s =	0	1	0	0	0	0	0	0	0	0	0	47
rank value of 74.8s =	0	0	0	0	0	0	0	0	0	0	1	48
rank value of 77s =	0	0	0	0	0	0	0	0	1	0	0	49
rank value of 80s =	0	0	0	0	0	0	1	0	0	0	0	50
rank value of 92s =	0	0	0	0	1	0	0	1	0	0	0	51.5
rank value of 93s =	0	0	0	0	0	0	1	0	1	0	0	53.5
rank value of 95s =	0	0	0	0	0	0	1	0	0	0	0	55
rank value of 100s =	0	1	0	0	0	0	0	0	0	0	0	56

rank value of 110s =	0	0	0	0	0	0	1	1	0	0	0	57.5
rank value of 111s =	0	0	0	0	0	0	0	0	0	0	1	59
rank value of 120s =	0	0	2	0	1	1	0	0	0	0	0	61.5
rank value of 123s =	0	0	0	0	0	0	0	0	0	0	1	64
rank value of 125s =	0	0	0	0	0	0	0	0	0	0	1	65
rank value of 126s =	1	0	0	0	0	0	0	0	0	0	0	66
rank value of 130s =	0	0	0	0	0	1	1	1	0	0	0	68
rank value of 131s =	1	0	0	0	0	0	0	0	0	0	0	70
rank value of 140s =	0	0	0	0	0	2	2	2	0	0	0	73.5
rank value of 144s =	0	0	1	0	0	0	0	0	0	0	0	77
rank value of 147s =	1	0	0	0	0	0	0	0	0	0	0	78
rank value of 150s =	0	0	0	0	0	0	0	0	0	1	0	79
rank value of 151s =	0	0	0	0	0	0	0	0	0	1	0	80
rank value of 153s =	0	0	1	0	0	0	0	0	0	0	0	81
rank value of 157s =	0	0	0	1	0	0	0	0	0	0	0	82
rank value of 160s =	0	0	2	0	1	1	2	0	1	0	0	86
rank value of 162s =	0	0	1	0	0	0	0	0	0	0	0	90
rank value of 163s =	0	0	0	0	0	0	0	0	0	1	0	91
rank value of 164s =	0	0	0	0	0	0	1	0	0	0	0	92
rank value of 168s =	0	0	0	1	0	0	0	0	0	0	0	93
rank value of 170s =	0	0	0	0	0	1	0	0	0	0	0	94
rank value of 173s =	0	0	0	0	0	0	0	1	0	0	0	95
rank value of 178s =	0	0	0	1	0	0	0	0	0	0	1	96.5
rank value of 180s =	0	0	1	1	0	1	0	1	0	0	0	99.5
rank value of 182s =	0	0	0	1	0	0	0	0	0	1	0	102.5
rank value of 184s =	0	0	0	0	0	0	1	0	0	0	0	104
rank value of 185s =	1	0	0	0	0	0	0	0	0	0	0	105
rank value of 188s =	0	0	1	1	0	0	0	0	0	0	0	106.5
rank value of 190s =	0	0	0	0	0	0	0	1	0	1	0	108.5
rank value of 191s =	1	0	0	0	0	0	0	0	0	0	0	110
rank value of 194s =	1	0	0	0	0	0	0	0	0	0	0	111
rank value of 196s =	0	0	0	0	0	0	0	0	0	1	0	112
rank value of 198s =	0	0	0	1	0	0	0	0	0	0	0	113
rank value of 200s =	0	0	2	0	0	1	0	0	0	0	0	115
rank value of 202s =	0	0	0	0	0	0	0	1	0	0	0	117
rank value of 205s =	0	0	0	0	0	0	0	1	0	0	0	118
rank value of 208s =	1	0	0	0	0	0	0	1	0	0	0	119.5
rank value of 209s =	0	0	0	0	0	0	0	0	0	1	0	121
rank value of 210s =	0	0	0	1	0	0	0	1	0	0	0	122.5
rank value of 216s =	0	0	0	0	0	0	1	2	0	0	0	125
rank value of 220s =	0	0	1	0	0	0	0	0	0	0	0	127
rank value of 223s =	0	0	1	0	0	0	0	0	0	0	0	128
rank value of 224s =	0	0	0	1	0	0	0	0	0	0	0	129
rank value of 230s =	0	0	0	0	0	1	1	0	0	1	0	131
rank value of 234s =	0	0	0	0	0	0	0	1	0	0	0	133
rank value of 238s =	0	0	0	0	0	0	0	0	0	1	0	134
rank value of 240s =	0	0	0	2	0	0	0	0	0	0	0	135.5
rank value of 245s =	0	0	0	0	0	0	0	0	0	0	1	137
rank value of 250s =	1	0	0	0	0	1	0	0	0	0	0	138.5
rank value of 253s =	0	0	1	0	0	0	0	0	0	0	0	140
rank value of 270s =	0	0	0	0	0	0	0	0	0	1	0	141
rank value of 290s =	1	0	0	0	0	0	0	1	0	0	0	142.5
rank value of 300s =	1	0	0	1	0	0	0	1	0	0	0	145
rank value of 309s =	0	0	0	1	0	0	0	0	0	0	0	147
rank value of 310s =	0	0	0	0	2	0	0	0	0	0	0	148.5
rank value of 313s =	0	0	1	0	0	0	0	0	0	0	0	150
rank value of 320s =	3	0	0	0	0	0	0	0	0	0	0	152
rank value of 330s =	2	0	0	1	1	0	0	0	0	0	0	155.5
rank value of 332s =	0	0	0	1	0	0	0	0	0	0	0	158
rank value of 360s =	0	0	0	0	0	0	0	0	2	0	0	159.5
rank value of 361s =	0	0	0	0	0	0	0	0	0	0	1	161
rank value of 380s =	0	1	0	0	0	0	0	0	0	0	0	162
rank value of 410s =	1	0	0	1	0	0	0	1	0	0	0	164
rank value of 420s =	0	0	0	0	1	0	0	0	0	0	0	166
rank value of 428s =	0	0	0	0	0	0	1	0	0	0	0	167
rank value of 460s =	0	0	0	0	1	0	0	0	1	0	0	168.5
rank value of 470s =	0	0	0	1	0	0	0	0	0	0	0	170
rank value of 474s =	1	0	0	0	0	0	0	0	0	0	0	171
rank value of 480s =	1	0	0	0	0	0	0	0	0	0	0	172
rank value of 500s =	0	1	0	0	0	0	0	0	0	0	0	173
rank value of 501s =	1	0	0	0	0	0	0	0	0	0	0	174
rank value of 516s =	0	0	0	0	0	0	0	0	0	1	0	175
rank value of 531s =	0	0	0	0	0	0	1	0	0	0	0	176
rank value of 591s =	0	0	1	0	0	1	0	0	0	0	0	177.5
rank value of 600s =	1	0	0	0	0	0	0	0	0	0	1	179.5
rank value of 610s =	0	0	0	0	1	0	0	0	0	0	0	181
rank value of 650s =	1	0	0	0	0	0	0	0	0	0	1	182.5
rank value of 661s =	0	0	0	0	0	1	0	0	0	0	0	184
rank value of 750s =	0	0	1	0	0	0	0	0	0	1	0	185.5
rank value of 770s =	1	0	0	0	0	0	0	0	0	0	0	187
rank value of 800s =	0	0	0	0	0	0	0	0	0	1	0	188
rank value of 810s =	0	0	0	0	0	0	0	0	0	1	0	189
rank value of 817s =	0	0	0	0	0	1	0	0	0	0	0	190
rank value of 870s =	0	0	0	0	1	0	0	0	0	0	0	191
rank value of 872s =	0	0	0	0	0	0	0	0	0	0	1	192

rank value of 894s =	0	0	0	0	0	1	0	0	0	0	0	193
rank value of 900s =	0	0	0	0	0	0	0	0	0	1	0	194
rank value of 910s =	0	0	0	0	0	0	0	0	1	0	0	195
rank value of 940s =	0	0	0	0	0	0	0	0	0	1	0	196
rank value of 945s =	0	0	0	0	0	0	1	0	0	0	0	197
rank value of 970s =	0	0	0	0	0	0	0	0	0	1	0	198
rank value of 987s =	0	0	0	0	0	1	0	0	0	0	0	199
rank value of 1000s =	0	0	0	0	0	0	0	0	0	1	0	200
rank value of 1100s =	0	0	0	0	2	0	0	0	0	0	0	201.5
rank value of 1200s =	0	0	0	0	1	0	0	0	1	0	0	203.5
rank value of 1210s =	0	0	0	0	1	0	0	0	0	0	0	205
rank value of 1230s =	0	0	0	0	1	0	0	0	0	0	0	206
rank value of 1300s =	2	0	0	0	2	1	0	0	0	0	0	209
rank value of 1350s =	0	0	0	0	1	0	0	0	0	0	0	212
rank value of 1380s =	0	0	0	0	0	1	0	0	0	0	0	213
rank value of 1390s =	0	0	0	0	0	1	0	0	0	0	0	214
rank value of 1400s =	0	0	0	0	0	0	0	0	0	2	0	215.5
rank value of 1500s =	0	0	0	0	0	1	0	0	0	0	0	217
rank value of 1550s =	0	0	0	0	0	1	0	0	0	0	0	218
rank value of 1620s =	0	0	0	0	1	0	0	0	0	0	0	219
rank value of 1700s =	0	0	0	1	0	0	0	0	0	0	0	220
rank value of 1720s =	0	0	0	0	1	0	0	0	0	0	0	221
rank value of 1760s =	0	0	0	0	1	0	0	0	0	0	0	222
rank value of 1800s =	0	0	0	1	0	0	0	0	0	0	0	223
rank value of 1920s =	0	0	0	0	1	0	0	0	0	0	0	224
rank value of 2000s =	0	0	0	0	0	0	0	0	0	0	1	225
rank value of 2700s =	0	0	0	0	0	0	0	0	0	0	2	226.5
rank value of 2800s =	0	0	0	0	0	0	0	0	0	0	1	228
rank value of 3700s =	0	0	0	0	0	0	0	0	0	0	1	229
rank value of 4200s =	0	0	0	1	0	0	0	0	0	0	0	230
rank value of 4900s =	0	0	0	0	0	0	0	0	0	0	2	231.5
rank value of 7200s =	0	0	0	1	0	0	0	0	0	0	0	233
rank value of 11000s =	0	0	0	0	0	0	0	0	0	0	1	234
n =	**24**	**23**	**18**	**23**	**23**	**22**	**20**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

0	17	8.5	17	8.5	17	17	17	17	17	0
0	0	0	0	0	0	0	0	17	0	0
0	0	0	0	0	0	0	0	37	0	0
0	0	0	0	0	0	0	0	20	0	0
0	21	0	0	0	0	0	0	0	0	0
0	22	0	0	0	0	0	0	0	0	0
0	23	0	0	0	0	0	0	0	0	0
0	24	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	25	0	0
0	0	0	0	0	0	0	0	26	0	0
0	27	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	28	0	0	0	0
0	0	0	0	0	0	0	0	29	0	0
0	30	0	0	0	0	0	0	0	0	0
0	31	0	0	0	0	0	0	0	0	0
0	32	0	0	0	0	0	0	0	0	0
0	33	0	0	0	0	0	0	0	0	0
0	34	0	0	0	0	0	0	0	0	0
0	35	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	36	0	0
0	37	0	0	0	0	0	0	0	0	0
0	38	0	0	0	0	0	0	0	0	0
0	39	0	0	0	0	0	0	0	0	0
0	40	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	41	0	0
0	0	0	0	0	0	0	0	42	0	0
0	0	0	0	0	0	0	0	43	0	0
0	0	0	0	0	0	44	0	0	0	0
0	91	0	0	0	0	0	0	0	0	0
0	47	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	48
0	0	0	0	0	0	0	0	49	0	0
0	0	0	0	0	0	50	0	0	0	0
0	0	0	0	51.5	0	0	51.5	0	0	0
0	0	0	0	0	0	53.5	0	53.5	0	0
0	0	0	0	0	0	55	0	0	0	0
0	56	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	57.5	57.5	0	0	0
0	0	0	0	0	0	0	0	0	0	59
0	0	123	0	61.5	61.5	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	64
0	0	0	0	0	0	0	0	0	0	65
66	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	68	68	68	0	0	0
70	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	147	147	147	0	0	0
0	0	77	0	0	0	0	0	0	0	0

78	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	79	0
0	0	0	0	0	0	0	0	0	80	0
0	0	81	0	0	0	0	0	0	0	0
0	0	0	82	0	0	0	0	0	0	0
0	0	172	0	86	86	172	0	86	0	0
0	0	90	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	91	0
0	0	0	0	0	0	92	0	0	0	0
0	0	0	93	0	0	0	0	0	0	0
0	0	0	0	0	94	0	0	0	0	0
0	0	0	0	0	0	0	95	0	0	0
0	0	0	96.5	0	0	0	0	0	0	96.5
0	0	99.5	99.5	0	99.5	0	99.5	0	0	0
0	0	0	102.5	0	0	0	0	0	102.5	0
0	0	0	0	0	0	104	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0
0	0	106.5	106.5	0	0	0	0	0	0	0
0	0	0	0	0	0	0	108.5	0	108.5	0
110	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	112	0
0	0	0	113	0	0	0	0	0	0	0
0	0	230	0	0	115	0	0	0	0	0
0	0	0	0	0	0	0	117	0	0	0
0	0	0	0	0	0	0	118	0	0	0
119.5	0	0	0	0	0	0	119.5	0	0	0
0	0	0	0	0	0	0	0	0	121	0
0	0	0	122.5	0	0	0	122.5	0	0	0
0	0	0	0	0	0	125	250	0	0	0
0	0	127	0	0	0	0	0	0	0	0
0	0	128	0	0	0	0	0	0	0	0
0	0	0	129	0	0	0	0	0	0	0
0	0	0	0	0	131	131	0	0	131	0
0	0	0	0	0	0	0	133	0	0	0
0	0	0	0	0	0	0	0	0	134	0
0	0	0	271	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	137
138.5	0	0	0	0	138.5	0	0	0	0	0
0	0	140	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	141	0
142.5	0	0	0	0	0	0	142.5	0	0	0
145	0	0	145	0	0	0	145	0	0	0
0	0	0	147	0	0	0	0	0	0	0
0	0	0	0	297	0	0	0	0	0	0
0	0	150	0	0	0	0	0	0	0	0
456	0	0	0	0	0	0	0	0	0	0
311	0	0	155.5	155.5	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	319	0	0
0	0	0	0	0	0	0	0	0	0	161
0	162	0	0	0	0	0	0	0	0	0
164	0	0	164	0	0	0	164	0	0	0
0	0	0	0	166	0	0	0	0	0	0
0	0	0	0	0	0	167	0	0	0	0
0	0	0	0	168.5	0	0	0	168.5	0	0
0	0	0	170	0	0	0	0	0	0	0
171	0	0	0	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0	0	0	0
0	173	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	175	0
0	0	0	0	0	0	176	0	0	0	0
0	0	177.5	0	0	177.5	0	0	0	0	0
179.5	0	0	0	0	0	0	0	0	0	179.5
0	0	0	0	181	0	0	0	0	0	0
182.5	0	0	0	0	0	0	0	0	0	182.5
0	0	0	0	0	184	0	0	0	0	0
0	0	185.5	0	0	0	0	0	0	185.5	0
187	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	189	0
0	0	0	0	0	190	0	0	0	0	0
0	0	0	0	191	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	192
0	0	0	0	0	193	0	0	0	0	0
0	0	0	0	0	0	0	0	0	194	0
0	0	0	0	0	0	0	0	195	0	0
0	0	0	0	0	0	0	0	0	196	0
0	0	0	0	0	0	197	0	0	0	0
0	0	0	0	0	0	0	0	0	198	0
0	0	0	0	0	199	0	0	0	0	0
0	0	0	0	0	0	0	0	0	200	0
0	0	0	0	403	0	0	0	0	0	0
0	0	0	0	203.5	0	0	0	203.5	0	0

	0	0	0	0	205	0	0	0	0	0	0
	0	0	0	0	206	0	0	0	0	0	0
	418	0	0	0	418	209	0	0	0	0	0
	0	0	0	0	212	0	0	0	0	0	0
	0	0	0	0	0	213	0	0	0	0	0
	0	0	0	0	0	214	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	431	0
	0	0	0	0	0	217	0	0	0	0	0
	0	0	0	0	0	218	0	0	0	0	0
	0	0	0	0	219	0	0	0	0	0	0
	0	0	0	220	0	0	0	0	0	0	0
	0	0	0	0	221	0	0	0	0	0	0
	0	0	0	0	222	0	0	0	0	0	0
	0	0	0	223	0	0	0	0	0	0	0
	0	0	0	0	224	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	225
	0	0	0	0	0	0	0	0	0	0	453
	0	0	0	0	0	0	0	0	0	0	228
	0	0	0	0	0	0	0	0	0	0	229
	0	0	0	230	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	463
	0	0	0	233	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	234
sum of rank values (R_i)	**3500.5**	**1012**	**1895.5**	**3078**	**3900**	**2972**	**1684**	**1955.5**	**1407.5**	**3073.5**	**3016.5**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	631730.2	411917	661304	401490	141793	191199	94336	429382	505515

$N_{i\,bg}$ = 65
N = 234
H = 51.94

Adjust H for ties:

T_i = 5250 sum of T1..T2

$H' = H/(1-(T_i/(N^3-N)))$
H' = 51.96
Chi-square = 15.51

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 15.51 which is less than H' =51.96.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	**MW-2**	MW-2D	MW-3	MW-3D	MW-4A	**MW-8**	**MW-15**
Rbar (well x) =	133.8	169.6	135.1	84.2	97.8	67.0	139.7	167.6
avg Rbar (background) =	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6
Dx =	35.2	71.0	36.5	-14.4	-0.8	-31.6	41.1	69.0
Cx =	38.3	38.3	38.9	40.3	40.3	39.6	38.9	42.0
Statistical Significance ?	No	**Yes**	No	No	No	No	**Yes**	**Yes**
If SSI, is current event above MCL?	-	No	-	-	-	-	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 Barium 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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
4/24/00	**250**	NS	NS	**240**	**420**	**200**	**63**	**300**	**93**	**230**	NS	**5**
6/26/00	**300**	**67**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
7/26/00	**330**	**30**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
9/18/00	NS	NS	NS	**330**	**92**	NS	NS	NS	NT	NS	NS	**500**
4/9/01	**1300**	**380**	NS	**180**	**330**	**120**	**80**	**290**	**360**	**970**	NS	**5**
9/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
1/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
2/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**500**
4/15/02	**1300**	**41**	NS	ND	ND	**160**	**23**	**190**	**460**	**1400**	NS	**5**
9/26/02	**330**	**500**	**750**	**4200**	**120**	**230**	**93**	**410**	**910**	**1400**	**11000**	**5**
4/28/03	**600**	**66**	**220**	**1800**	**160**	**140**	**110**	**92**	**360**	**800**	**2800**	**5**
10/30/03	**320**	**100**	NT	**210**	**310**	**130**	**95**	**110**	**1200**	**270**	**4900**	**5**
4/20/04	**320**	**56**	**120**	**410**	**460**	**170**	**140**	**210**	**62**	**940**	**2000**	**5**
10/21/04	**320**	**40**	**200**	**300**	**310**	**140**	**140**	**130**	**12**	**900**	**4900**	**5**
4/18/05	**480**	**55**	**160**	**7200**	**610**	**180**	**160**	**140**	**12**	**1000**	**3700**	**5**
10/13/05	**770**	**37**	**160**	**1700**	**870**	**250**	**160**	**140**	**27**	**810**	**2700**	**5**
4/25/06	**650**	ND	ND	ND	**1100**	ND	ND	ND	ND	**750**	**2700**	**500**
10/20/06	**410**	**22**	**180**	**470**	**1100**	ND	ND	ND	**160**	ND	**650**	**5**
4/25/07	**290**	ND	**200**	**240**	**1300**	**1500**	**130**	**180**	ND	ND	**600**	**100**
10/31/07	**501**	**31.5**	**223**	**198**	**1350**	**591**	**184**	**208**	**62.4**	**516**	**872**	**5**
4/23/08	**194**	**30.8**	**253**	**168**	**1230**	**661**	**216**	**202**	**61.8**	**151**	**361**	**5**
10/20/08	**474**	**66**	**313**	**224**	**1210**	**894**	**164**	**216**	**41.1**	**182**	**245**	**5**
4/22/09	**126**	**47.2**	**591**	**309**	**1300**	**817**	**230**	**216**	**77**	**163**	NS	**5**
10/26/09	**131**	**16.8**	**144**	**188**	**1720**	**987**	NS	NS	NS	**209**	**178**	**5**
4/22/10	**208**	**43.5**	**153**	**157**	**1920**	**1380**	NS	NS	**20.9**	**150**	**74.8**	**5**
10/27/10	**147**	**15.8**	**162**	**178**	**1760**	**1550**	**531**	**234**	**20**	**190**	**111**	**5**
4/29/11	**191**	**16.3**	**188**	**182**	**1620**	**1390**	**428**	**173**	**13.6**	**196**	**125**	**5**
10/25/11	**185**	**19.7**	**120**	**332**	**1200**	**1300**	**945**	**205**	**8.2**	**238**	**123**	**5**

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

250			240	420	200	63	300	93	230	
300	67									
330	30									
			330	92						
1300	380		180	330	120	80	290	360	970	
1300	41		2.5	2.5	160	23	190	460	1400	
330	500	750	4200	120	230	93	410	910	1400	11000
600	66	220	1800	160	140	110	92	360	800	2800
320	100		210	310	130	95	110	1200	270	4900
320	56	120	410	460	170	140	210	62	940	2000
320	40	200	300	310	140	140	130	12	900	4900
480	55	160	7200	610	180	160	140	12	1000	3700
770	37	160	1700	870	250	160	140	27	810	2700
650	250	250	250	1100	250	250	250	250	750	2700
410	22	180	470	1100	2.5	2.5	2.5	160	2.5	650
290	50	200	240	1300	1500	130	180	50	50	600
501	31.5	223	198	1350	591	184	208	62.4	516	872
194	30.8	253	168	1230	661	216	202	61.8	151	361
474	66	313	224	1210	894	164	216	41.1	182	245
126	47.2	591	309	1300	817	230	216	77	163	
131	16.8	144	188	1720	987				209	178
208	43.5	153	157	1920	1380			20.9	150	74.8

	147	15.8	162	178	1760	1550	531	234	20	190	111
	191	16.3	188	182	1620	1390	428	173	13.6	196	125
	185	19.7	120	332	1200	1300	945	205	8.2	238	123
n =	24	23	18	23	23	22	20	20	21	22	18
bar x_i =	421.96	86.157	243.72	846.46	891.07	592.84	207.23	194.93	202.9	523.52	2113.3
z_{ij} =	171.96			606.46	471.07	392.84	144.23	105.08	109.9	293.52	
	121.96	19.157									
	91.958	56.157									
				516.46	799.07						
	878.04	293.84		666.46	561.07	472.84	127.23	95.075	157.1	446.48	
	878.04	45.157		843.96	888.57	432.84	184.23	4.925	257.1	876.48	
	91.958	413.84	506.28	3353.5	771.07	362.84	114.23	215.08	707.1	876.48	8886.7
	178.04	20.157	23.722	953.54	731.07	452.84	97.225	102.93	157.1	276.48	686.68
	101.96	13.843		636.46	581.07	462.84	112.23	84.925	997.1	253.52	2786.7
	101.96	30.157	123.72	436.46	431.07	422.84	67.225	15.075	140.9	416.48	113.32
	101.96	46.157	43.722	546.46	581.07	452.84	67.225	64.925	190.9	376.48	2786.7
	58.042	31.157	83.722	6353.5	281.07	412.84	47.225	54.925	190.9	476.48	1586.7
	348.04	49.157	83.722	853.54	21.065	342.84	47.225	54.925	175.9	286.48	586.68
	228.04	163.84	6.2778	596.46	208.93	342.84	42.775	55.075	47.095	226.48	586.68
	11.958	64.157	63.722	376.46	208.93	590.34	204.73	192.43	42.905	521.02	1463.3
	131.96	36.157	43.722	606.46	408.93	907.16	77.225	14.925	152.9	473.52	1513.3
	79.042	54.657	20.722	648.46	458.93	1.8409	23.225	13.075	140.5	7.5227	1241.3
	227.96	55.357	9.2778	678.46	338.93	68.159	8.775	7.075	141.1	372.52	1752.3
	52.042	20.157	69.278	622.46	318.93	301.16	43.225	21.075	161.8	341.52	1868.3
	295.96	38.957	347.28	537.46	408.93	224.16	22.775	21.075	125.9	360.52	
	290.96	69.357	99.722	658.46	828.93	394.16				314.52	1935.3
	213.96	42.657	90.722	689.46	1028.9	787.16			182	373.52	2038.5
	274.96	70.357	81.722	668.46	868.93	957.16	323.78	39.075	182.9	333.52	2002.3
	230.96	69.857	55.722	664.46	728.93	797.16	220.78	21.925	189.3	327.52	1988.3
	236.96	66.457	123.72	514.46	308.93	707.16	737.78	10.075	194.7	285.52	1990.3
bar z_i =	224.94	76.989	104.27	1001.2	531.93	467.58	135.67	59.683	221.2	387.12	1989.6
n_i * bar z_i^2 =	1E+06	136328	195683	2E+07	7E+06	5E+06	368100	71240	1E+06	3E+06	7E+07

bar z = 472.75
N = 234

	SS	df	MS	F_{Ratio}	$F_{critical}$
Between Wells	6E+07	10	6E+06	7.98	1.67
Error	2E+08	223	747570		
Total	2E+08	233			

Since the F-ratio = 7.98 exceeds the tabulated value of F-critical = 1.67 (see Table 2 of IFG) with 10 and 223 df, the assumption of equal variances should be rejected.
Re-test the data set using the natural log of the above values.

	MW-11S	**MW-11D**	**MW-14**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
ln=	5.5215			5.4806	6.0403	5.2983	4.1431	5.7038	4.5326	5.4381	
	5.7038	4.2047									
	5.7991	3.4012									
				5.7991	4.5218						
	7.1701	5.9402		5.193	5.7991	4.7875	4.382	5.6699	5.8861	6.8773	
	7.1701	3.7136		0.9163	0.9163	5.0752	3.1355	5.247	6.1312	7.2442	
	5.7991	6.2146	6.6201	8.3428	4.7875	5.4381	4.5326	6.0162	6.8134	7.2442	9.3057

	6.3969	4.1897	5.3936	7.4955	5.0752	4.9416	4.7005	4.5218	5.8861	6.6846	7.9374
	5.7683	4.6052		5.3471	5.7366	4.8675	4.5539	4.7005	7.0901	5.5984	8.497
	5.7683	4.0254	4.7875	6.0162	6.1312	5.1358	4.9416	5.3471	4.1271	6.8459	7.6009
	5.7683	3.6889	5.2983	5.7038	5.7366	4.9416	4.9416	4.8675	2.4849	6.8024	8.497
	6.1738	4.0073	5.0752	8.8818	6.4135	5.193	5.0752	4.9416	2.4849	6.9078	8.2161
	6.6464	3.6109	5.0752	7.4384	6.7685	5.5215	5.0752	4.9416	3.2958	6.697	7.901
	6.477	5.5215	5.5215	5.5215	7.0031	5.5215	5.5215	5.5215	5.5215	6.6201	7.901
	6.0162	3.091	5.193	6.1527	7.0031	0.9163	0.9163	0.9163	5.0752	0.9163	6.477
	5.6699	3.912	5.2983	5.4806	7.1701	7.3132	4.8675	5.193	3.912	3.912	6.3969
	6.2166	3.45	5.4072	5.2883	7.2079	6.3818	5.2149	5.3375	4.1336	6.2461	6.7708
	5.2679	3.4275	5.5334	5.124	7.1148	6.4938	5.3753	5.3083	4.1239	5.0173	5.8889
	6.1612	4.1897	5.7462	5.4116	7.0984	6.7957	5.0999	5.3753	3.716	5.204	5.5013
	4.8363	3.8544	6.3818	5.7333	7.1701	6.7056	5.4381	5.3753	4.3438	5.0938	
	4.8752	2.8214	4.9698	5.2364	7.4501	6.8947				5.3423	5.1818
	5.3375	3.7728	5.0304	5.0562	7.5601	7.2298			3.0397	5.0106	4.3148
	4.9904	2.76	5.0876	5.1818	7.4731	7.346	6.2748	5.4553	2.9957	5.247	4.7095
	5.2523	2.7912	5.2364	5.204	7.3902	7.2371	6.0591	5.1533	2.6101	5.2781	4.8283
	5.2204	2.9806	4.7875	5.8051	7.0901	7.1701	6.8512	5.323	2.1041	5.4723	4.8122
n =	24	23	18	23	23	22	20	20	21	22	18
bar x_i =	5.8336	3.9206	5.3579	5.7309	6.2894	5.7821	4.855	5.0458	4.3004	5.7136	6.7076
z_{ij} =	0.3121			0.2502	0.2492	0.4838	0.7119	0.658	0.2322	0.2755	
	0.1298	0.2841									
	0.0345	0.5194									
				0.0682	1.7677						
	1.3365	2.0196		0.5379	0.4904	0.9946	0.473	0.6241	1.5857	1.1637	
	1.3365	0.207		4.8146	5.3732	0.7069	1.7195	0.2012	1.8308	1.5306	
	0.0345	2.294	1.2621	2.612	1.502	0.344	0.3224	0.9704	2.5131	1.5306	2.598
	0.5633	0.2691	0.0357	1.7647	1.2143	0.8404	0.1545	0.524	1.5857	0.971	1.2297
	0.0653	0.6846		0.3838	0.5529	0.9145	0.3011	0.3453	2.7897	0.1152	1.7894
	0.0653	0.1048	0.5705	0.2853	0.1582	0.6463	0.0867	0.3013	0.1732	1.1323	0.8933
	0.0653	0.2317	0.0596	0.0271	0.5529	0.8404	0.0867	0.1783	1.8155	1.0888	1.7894
	0.3402	0.0867	0.2828	3.151	0.124	0.5891	0.2202	0.1041	1.8155	1.1941	1.5085
	0.8128	0.3097	0.2828	1.7075	0.479	0.2606	0.2202	0.1041	1.0045	0.9834	1.1934
	0.6434	1.6009	0.1635	0.2094	0.7136	0.2606	0.6665	0.4757	1.2211	0.9064	1.1934
	0.1826	0.8295	0.165	0.4219	0.7136	4.8658	3.9387	4.1295	0.7748	4.7973	0.2307
	0.1637	0.0086	0.0596	0.2502	0.8807	1.5311	0.0125	0.1472	0.3884	1.8016	0.3107
	0.383	0.4706	0.0492	0.4426	0.9184	0.5997	0.3599	0.2918	0.1668	0.5325	0.0632
	0.5657	0.4931	0.1754	0.6069	0.8253	0.7117	0.5203	0.2625	0.1765	0.6963	0.8188
	0.3276	0.2691	0.3883	0.3192	0.8089	1.0136	0.2449	0.3295	0.5844	0.5096	1.2064
	0.9973	0.0662	1.0239	0.0025	0.8807	0.9236	0.5831	0.3295	0.0434	0.6199	
	0.9584	1.0992	0.3881	0.4944	1.1606	1.1126				0.3713	1.5259
	0.4961	0.1478	0.3275	0.6746	1.2706	1.4478			1.2606	0.703	2.3928
	0.8432	1.1606	0.2703	0.5491	1.1836	1.5639	1.4198	0.4095	1.3046	0.4666	1.9981
	0.5813	1.1294	0.1215	0.5269	1.1007	1.455	1.2041	0.1075	1.6903	0.4355	1.8793
	0.6132	0.94	0.5705	0.0743	0.8006	1.388	1.9962	0.2772	2.1962	0.2414	1.8955
bar z_i =	0.4938	0.662	0.3442	0.8771	1.0314	1.0679	0.7621	0.5385	1.1978	1.003	1.362
n_i * bar z_i^2 =	5.8526	10.079	2.133	17.696	24.465	25.09	11.616	5.8004	30.128	22.133	33.391

bar z = 0.8491
N = 234

	SS	df	MS	F_{Ratio}	$F_{critical}$
Between Wells	19.68	10	1.97	1.94	1.67
Error	226.37	223	1.02		
Total	246.05	233			

Since the F-ratio = 1.94 exceeds the tabulated value of F-critical = 1.67 (see Table 2 of IFG) with 10 and 223 df, the assumption of equal variances should be rejected.
A non-parametric testing procedure should be used on the data set.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
4/24/00	**250**	NS	NS	**240**	**420**	**200**	**63**	**300**	**93**	**230**	NS	**5**
6/26/00	**300**	**67**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
7/26/00	**330**	**30**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
9/18/00	NS	NS	NS	**330**	**92**	NS	NS	NS	NT	NS	NS	**500**
4/9/01	**1300**	**380**	NS	**180**	**330**	**120**	**80**	**290**	**360**	**970**	NS	**5**
9/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
1/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
2/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**500**
4/15/02	**1300**	**41**	NS	ND	ND	**160**	**23**	**190**	**460**	**1400**	NS	**5**
9/26/02	**330**	**500**	**750**	**4200**	**120**	**230**	**93**	**410**	**910**	**1400**	**11000**	**5**
4/28/03	**600**	**66**	**220**	**1800**	**160**	**140**	**110**	**92**	**360**	**800**	**2800**	**5**
10/30/03	**320**	**100**	NT	**210**	**310**	**130**	**95**	**110**	**1200**	**270**	**4900**	**5**
4/20/04	**320**	**56**	**120**	**410**	**460**	**170**	**140**	**210**	**62**	**940**	**2000**	**5**
10/21/04	**320**	**40**	**200**	**300**	**310**	**140**	**140**	**130**	**12**	**900**	**4900**	**5**
4/18/05	**480**	**55**	**160**	**7200**	**610**	**180**	**160**	**140**	**12**	**1000**	**3700**	**5**
10/13/05	**770**	**37**	**160**	**1700**	**870**	**250**	**160**	**140**	**27**	**810**	**2700**	**5**
4/25/06	**650**	ND	ND	ND	**1100**	ND	ND	ND	ND	**750**	**2700**	**500**
10/20/06	**410**	**22**	**180**	**470**	**1100**	ND	ND	ND	**160**	ND	**650**	**5**
4/25/07	**290**	ND	**200**	**240**	**1300**	**1500**	**130**	**180**	ND	ND	**600**	**100**
10/31/07	**501**	**31.5**	**223**	**198**	**1350**	**591**	**184**	**208**	**62.4**	**516**	**872**	**5**
4/23/08	**194**	**30.8**	**253**	**168**	**1230**	**661**	**216**	**202**	**61.8**	**151**	**361**	**5**
10/20/08	**474**	**66**	**313**	**224**	**1210**	**894**	**164**	**216**	**41.1**	**182**	**245**	**5**
4/22/09	**126**	**47.2**	**591**	**309**	**1300**	**817**	**230**	**216**	**77**	**163**	NS	**5**
10/26/09	**131**	**16.8**	**144**	**188**	**1720**	**987**	NS	NS	NS	**209**	**178**	**5**
4/22/10	**208**	**43.5**	**153**	**157**	**1920**	**1380**	NS	NS	**20.9**	**150**	**74.8**	**5**
10/27/10	**147**	**15.8**	**162**	**178**	**1760**	**1550**	**531**	**234**	**20**	**190**	**111**	**5**
4/29/11	**191**	**16.3**	**188**	**182**	**1620**	**1390**	**428**	**173**	**13.6**	**196**	**125**	**5**
10/25/11	**185**	**19.7**	**120**	**332**	**1200**	**1300**	**945**	**205**	**8.2**	**238**	**123**	**5**

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

250			240	420	200	63	300	93	230	
300	67									
330	30									
			330	92						
1300	380		180	330	120	80	290	360	970	
1300	41		2.5	2.5	160	23	190	460	1400	
330	500	750	4200	120	230	93	410	910	1400	11000
600	66	220	1800	160	140	110	92	360	800	2800
320	100		210	310	130	95	110	1200	270	4900
320	56	120	410	460	170	140	210	62	940	2000
320	40	200	300	310	140	140	130	12	900	4900
480	55	160	7200	610	180	160	140	12	1000	3700
770	37	160	1700	870	250	160	140	27	810	2700
650	250	250	250	1100	250	250	250	250	750	2700
410	22	180	470	1100	2.5	2.5	2.5	160	2.5	650
290	50	200	240	1300	1500	130	180	50	50	600
501	31.5	223	198	1350	591	184	208	62.4	516	872

194	30.8	253	168	1230	661	216	202	61.8	151	361
474	66	313	224	1210	894	164	216	41.1	182	245
126	47.2	591	309	1300	817	230	216	77	163	
131	16.8	144	188	1720	987				209	178
208	43.5	153	157	1920	1380			20.9	150	74.8
147	15.8	162	178	1760	1550	531	234	20	190	111
191	16.3	188	182	1620	1390	428	173	13.6	196	125
185	19.7	120	332	1200	1300	945	205	8.2	238	123

X_i values =

-3E+07			-3E+07	-3E+06	-5E+07	-1E+08	-2E+07	-1E+08	-4E+07
-2E+07	-1E+08								
-1E+07	-2E+08								
			-1E+07	-1E+08					
4E+08	-6E+06		-6E+07	-1E+07	-9E+07	-1E+08	-2E+07	-8E+06	7E+07
4E+08	-1E+08		-2E+08	-2E+08	-6E+07	-2E+08	-5E+07	-1E+06	6E+08
-1E+07	-2E+05	7E+06	5E+10	-9E+07	-4E+07	-1E+08	-3E+06	4E+07	6E+08	1E+12
57612	-1E+08	-4E+07	2E+09	-6E+07	-7E+07	-9E+07	-1E+08	-8E+06	1E+07	1E+10
-1E+07	-1E+08		-4E+07	-2E+07	-8E+07	-1E+08	-9E+07	3E+08	-2E+07	8E+10
-1E+07	-1E+08	-9E+07	-3E+06	-1E+06	-6E+07	-7E+07	-4E+07	-1E+08	5E+07	3E+09
-1E+07	-1E+08	-5E+07	-2E+07	-2E+07	-7E+07	-7E+07	-8E+07	-2E+08	4E+07	8E+10
-5E+05	-1E+08	-6E+07	3E+11	114949	-6E+07	-6E+07	-7E+07	-2E+08	8E+07	3E+10
9E+06	-1E+08	-6E+07	1E+09	3E+07	-3E+07	-6E+07	-7E+07	-2E+08	2E+07	1E+10
696030	-3E+07	-3E+07	-3E+07	2E+08	-3E+07	-3E+07	-3E+07	-3E+07	7E+06	1E+10
-3E+06	-2E+08	-6E+07	-8E+05	2E+08	-2E+08	-2E+08	-2E+08	-6E+07	-2E+08	696030
-2E+07	-1E+08	-5E+07	-3E+07	4E+08	8E+08	-8E+07	-6E+07	-1E+08	-1E+08	57612
-2E+05	-1E+08	-4E+07	-5E+07	5E+08	25993	-5E+07	-4E+07	-1E+08	-93439	3E+07
-5E+07	-1E+08	-3E+07	-6E+07	3E+08	988709	-4E+07	-5E+07	-1E+08	-7E+07	-8E+06
-7E+05	-1E+08	-2E+07	-4E+07	3E+08	4E+07	-6E+07	-4E+07	-1E+08	-5E+07	-3E+07
-8E+07	-1E+08	25993	-2E+07	4E+08	2E+07	-4E+07	-4E+07	-1E+08	-6E+07	
-8E+07	-2E+08	-7E+07	-5E+07	2E+09	8E+07				-4E+07	-6E+07
-4E+07	-1E+08	-7E+07	-7E+07	3E+09	5E+08			-2E+08	-7E+07	-1E+08
-7E+07	-2E+08	-6E+07	-6E+07	2E+09	1E+09	-28033	-4E+07	-2E+08	-5E+07	-9E+07
-5E+07	-2E+08	-5E+07	-5E+07	1E+09	6E+08	-2E+06	-6E+07	-2E+08	-5E+07	-8E+07
-5E+07	-2E+08	-9E+07	-1E+07	3E+08	4E+08	6E+07	-5E+07	-2E+08	-3E+07	-8E+07

X_{bar} = 561.38
SD = 1093
N = 234
$1/N\Sigma_i(X_i-X_{bar})^3$ = 7E+09
γ_1 = 5.6416

Since the Coefficient of Skewness of 5.64 is greater than 1.0, the data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15
ln =	5.5215			5.4806	6.0403	5.2983	4.1431	5.7038	4.5326	5.4381	
	5.7038	4.2047									
	5.7991	3.4012									
				5.7991	4.5218						
	7.1701	5.9402		5.193	5.7991	4.7875	4.382	5.6699	5.8861	6.8773	

	7.1701	3.7136		0.9163	0.9163	5.0752	3.1355	5.247	6.1312	7.2442	
	5.7991	6.2146	6.6201	8.3428	4.7875	5.4381	4.5326	6.0162	6.8134	7.2442	9.3057
	6.3969	4.1897	5.3936	7.4955	5.0752	4.9416	4.7005	4.5218	5.8861	6.6846	7.9374
	5.7683	4.6052		5.3471	5.7366	4.8675	4.5539	4.7005	7.0901	5.5984	8.497
	5.7683	4.0254	4.7875	6.0162	6.1312	5.1358	4.9416	5.3471	4.1271	6.8459	7.6009
	5.7683	3.6889	5.2983	5.7038	5.7366	4.9416	4.9416	4.8675	2.4849	6.8024	8.497
	6.1738	4.0073	5.0752	8.8818	6.4135	5.193	5.0752	4.9416	2.4849	6.9078	8.2161
	6.6464	3.6109	5.0752	7.4384	6.7685	5.5215	5.0752	4.9416	3.2958	6.697	7.901
	6.477	5.5215	5.5215	5.5215	7.0031	5.5215	5.5215	5.5215	5.5215	6.6201	7.901
	6.0162	3.091	5.193	6.1527	7.0031	0.9163	0.9163	0.9163	5.0752	0.9163	6.477
	5.6699	3.912	5.2983	5.4806	7.1701	7.3132	4.8675	5.193	3.912	3.912	6.3969
	6.2166	3.45	5.4072	5.2883	7.2079	6.3818	5.2149	5.3375	4.1336	6.2461	6.7708
	5.2679	3.4275	5.5334	5.124	7.1148	6.4938	5.3753	5.3083	4.1239	5.0173	5.8889
	6.1612	4.1897	5.7462	5.4116	7.0984	6.7957	5.0999	5.3753	3.716	5.204	5.5013
	4.8363	3.8544	6.3818	5.7333	7.1701	6.7056	5.4381	5.3753	4.3438	5.0938	
	4.8752	2.8214	4.9698	5.2364	7.4501	6.8947				5.3423	5.1818
	5.3375	3.7728	5.0304	5.0562	7.5601	7.2298			3.0397	5.0106	4.3148
	4.9904	2.76	5.0876	5.1818	7.4731	7.346	6.2748	5.4553	2.9957	5.247	4.7095
	5.2523	2.7912	5.2364	5.204	7.3902	7.2371	6.0591	5.1533	2.6101	5.2781	4.8283
	5.2204	2.9806	4.7875	5.8051	7.0901	7.1701	6.8512	5.323	2.1041	5.4723	4.8122

X_i values =	0.0015			0.0004	0.2549	-0.001	-2.015	0.0263	-0.667	3E-05	
	0.0263	-1.735									
	0.0606	-8.061									
				0.0606	-0.692						
	5.488	0.1522		-0.01	0.0606	-0.237	-1.074	0.0183	0.1105	3.1835	

	5.488	-4.85		-90.51	-90.51	-0.036	-11.71	-0.004	0.3811	6.2092	
	0.0606	0.5283	1.7885	25.324	-0.237	3E-05	-0.667	0.2269	2.7867	6.2092	59.293
	0.9724	-1.801	-2E-06	9.1204	-0.036	-0.1	-0.352	-0.692	0.1105	2.0892	16.216
	0.0475	-0.514		-2E-04	0.0361	-0.156	-0.619	-0.352	4.7743	0.0071	29.526
	0.0475	-2.633	-0.237	0.2269	0.3811	-0.02	-0.1	-2E-04	-2.093	2.9838	10.571
	0.0475	-5.065	-0.001	0.0263	0.0361	-0.1	-0.1	-0.156	-24.93	2.7215	29.526
	0.4522	-2.737	-0.036	41.985	1.0219	-0.01	-0.036	-0.1	-24.93	3.3853	22.185
	1.9074	-5.787	-0.036	8.3921	2.5281	0.0015	-0.036	-0.1	-9.399	2.1507	15.527
	1.2276	0.0015	0.0015	0.0015	4.0718	0.0015	0.0015	0.0015	0.0015	1.7885	15.527
	0.2269	-12.41	-0.01	0.416	4.0718	-90.51	-90.51	-90.51	-0.036	-90.51	1.2276
	0.0183	-3.336	-0.001	0.0004	5.488	6.935	-0.156	-0.01	-3.336	-3.336	0.9724
	0.5322	-7.486	8E-10	-0.002	5.8479	0.9285	-0.007	-3E-04	-2.061	0.5925	2.5409
	-0.003	-7.747	0.0021	-0.022	4.9874	1.2862	-3E-05	-9E-04	-2.109	-0.059	0.1124
	0.4303	-1.801	0.0393	2E-07	4.8452	2.6826	-0.029	-3E-05	-4.829	-0.008	0.0009
	-0.185	-3.737	0.9285	0.035	5.488	2.194	3E-05	-3E-05	-1.199	-0.031	
	-0.15	-17.27	-0.083	-0.005	8.5379	3.2976				-3E-04	-0.011
	-3E-04	-4.358	-0.053	-0.043	9.9919	6.0645			-13.25	-0.062	-1.3
	-0.072	-18.53	-0.032	-0.011	8.8292	7.2989	0.6552	0.0001	-14.01	-0.004	-0.338
	-0.004	-17.88	-0.005	-0.008	7.809	6.1369	0.2783	-0.016	-21.86	-0.002	-0.193
	-0.006	-14.27	-0.237	0.0635	4.7743	5.488	3.0169	-6E-04	-36.01	0.0003	-0.21

X_{bar} = 5.4062
SD = 1.4562
N = 234
$1/N\Sigma_i(X_i-X_{bar})^3$ = -1.701
γ_1= 0.5545

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.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

Part 1: Check for Normality

	MW-2	MDL
9/26/2002	**120**	**5**
4/28/2003	**160**	**5**
10/30/2003	**310**	**5**
4/20/2004	**460**	**5**
10/21/2004	**310**	**5**
4/18/2005	**610**	**5**
10/13/2005	**870**	**5**
4/25/2006	**1100**	**500**
10/20/2006	**1100**	**5**
4/25/2007	**1300**	**100**
10/31/2007	**1350**	**5**
4/23/2008	**1230**	**5**
10/20/2008	**1210**	**5**
4/22/2009	**1300**	**5**
10/26/2009	**1720**	**5**
4/22/2010	**1920**	**5**
10/27/2010	**1760**	**5**
4/29/2011	**1620**	**5**
10/25/2011	**1200**	**5**

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

120	X_i values =	-764079684
160		-668110188
310		-379834579
460		-189327390
310		-379834579
610		-76338623
870		-4427952.8
1100		284753.61
1100		284753.61
1300		18776443
1350		31491471
1230		7505299.3
1210		5432235.6
1300		18776443
1720		322531729
1920		695010787
1760		382324382
1620		201013252
1200		4556914.3

X_{bar} = 1034.2105
SD = 560.59805
N = 19
$1/N\Sigma_i(X_i-X_{bar})^3$ = -40734975
γ_1= 0.2507462

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 real detected values shown above.

ln =	4.7874917	X_i values =	-7.041576
	5.0751738		-4.3230111
	5.7365723		-0.9060006
	6.1312265		-0.1881091
	5.7365723		-0.9060006
	6.413459		-0.0245771
	6.7684932		0.0002657
	7.0030655		0.0266941
	7.0030655		0.0266941
	7.1701195		0.1011405
	7.2078599		0.127763
	7.1147694		0.0692072
	7.0983756		0.0612436
	7.1701195		0.1011405
	7.4500796		0.4149554
	7.5600805		0.6269534
	7.4730691		0.4545196
	7.3901814		0.3227988
	7.0900768		0.0574562

X_{bar} = 6.7042027
SD = 0.8268744
N = 19
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.5788654
γ_1= 1.1104029

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

Part 2: Shewhart-CUSUM Control Chart

Date	MW-2	MDL	Data for Testing
9/26/2002	**120**	5	120
4/28/2003	**160**	5	160
10/30/2003	**310**	5	310
4/20/2004	**460**	5	460
10/21/2004	**310**	5	310
4/18/2005	**610**	5	610
10/13/2005	**870**	5	870
4/25/2006	**1100**	500	1100
10/20/2006	**1100**	5	1100
4/25/2007	**1300**	100	1300
10/31/2007	**1350**	5	1350
4/23/2008	**1230**	5	1230
10/20/2008	**1210**	5	1210
4/22/2009	**1300**	5	1300
10/26/2009	**1720**	5	1720
4/22/2010	**1920**	5	1920
10/27/2010	**1760**	5	1760
4/29/2011	**1620**	5	1620
10/25/2011	**1200**	5	1200

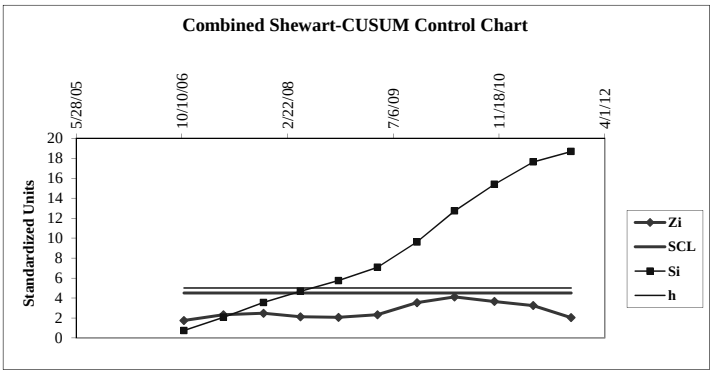
Compute the mean and standard deviation of the historical data:

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

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

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	1100	1.7512535	0.7512535	5	4.5
4/25/2007	1300	2.3277978	2.0790513	5	4.5
10/31/2007	1350	2.4719339	3.5509853	5	4.5
4/23/2008	1230	2.1260073	4.6769926	5	4.5
10/20/2008	**1210**	2.0683529	**5.7453454**	5	4.5
4/22/2009	**1300**	2.3277978	**7.0731433**	5	4.5
10/26/2009	**1720**	3.538541	**9.6116843**	5	4.5
4/22/2010	**1920**	4.1150853	**12.72677**	5	4.5
10/27/2010	**1760**	3.6538499	**15.380619**	5	4.5
4/29/2011	**1620**	3.2502688	**17.630888**	5	4.5
10/25/2011	**1200**	2.0395257	**18.670414**	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h.

One, or both, of the control limits was exceeded. Therefore, there is statistically significant evidence of contamination in this well at the concentrations indicated above.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

Part 1: Check for Normality

	MW-8	MDL
4/15/2002	**1400**	**5**
9/26/2002	**1400**	**5**
4/28/2003	**800**	**5**
10/30/2003	**270**	**5**
4/20/2004	**940**	**5**
10/21/2004	**900**	**5**
4/18/2005	**1000**	**5**
10/13/2005	**810**	**5**
4/25/2006	**750**	**500**
10/20/2006	ND	**5**
4/25/2007	ND	**100**
10/31/2007	**516**	**5**
4/23/2008	**151**	**5**
10/20/2008	**182**	**5**
4/22/2009	**163**	**5**
10/26/2009	**209**	**5**
4/22/2010	**150**	**5**
10/27/2010	**190**	**5**
4/29/2011	**196**	**5**
10/25/2011	**238**	**5**

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

	X_i values =
1400	691100191
1400	691100191
800	22936563
270	-14864254
940	76292460
900	56678418
1000	113467773
810	25444611
750	12833448
2.5	-135301979
50	-101113284
516	0.0019531
151	-48577183
182	-37217886
163	-43940265
209	-28899114
150	-48977680
190	-34606138
196	-32729615
238	-21455984

X_{bar} =	515.875
SD =	445.51312
N =	20
$1/N\Sigma_i(X_i-X_{bar})^3$ =	57108514
γ_1=	0.6974835

Since the Coefficient of Skewness of 0.70 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 =	7.2442275	3.9070171
	7.2442275	3.9070171
	6.6846117	1.0468799
	5.598422	-0.0003549
	6.8458799	1.6291062
	6.8023948	1.4550808
	6.9077553	1.8998612
	6.6970342	1.0857753
	6.6200732	0.8596787
	0.9162907	-107.37048
	3.912023	-5.4257985
	6.2461068	0.1919838
	5.0172798	-0.2770955
	5.2040067	-0.1006851
	5.0937502	-0.1905788
	5.3423343	-0.0349301
	5.0106353	-0.2856545
	5.2470241	-0.0752578
	5.2781147	-0.0598262

5.4722707	-0.0076398

X_{bar} = 5.6692231
SD = 1.451941
N = 20
$1/N\Sigma_i(X_i-X_{bar})^3$ = -4.8922952
γ_1= 1.7261573

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
4/15/2002	**1400**	5	1400
9/26/2002	**1400**	5	1400
4/28/2003	**800**	5	800
10/30/2003	**270**	5	270
4/20/2004	**940**	5	940
10/21/2004	**900**	5	900
4/18/2005	**1000**	5	1000
10/13/2005	**810**	5	810
4/25/2006	**750**	500	750
10/20/2006	ND	5	2.5
4/25/2007	ND	100	50
10/31/2007	**516**	5	516
4/23/2008	**151**	5	151
10/20/2008	**182**	5	182
4/22/2009	**163**	5	163
10/26/2009	**209**	5	209
4/22/2010	**150**	5	150
10/27/2010	**190**	5	190
4/29/2011	**196**	5	196
10/25/2011	**238**	5	238

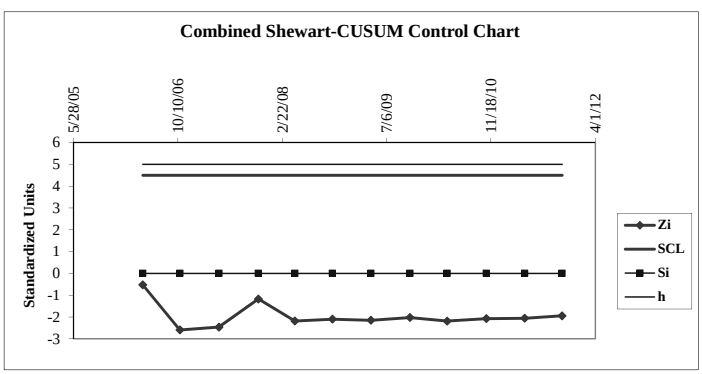
Compute the mean and standard deviation of the historical data:

940 = x_{mean} (Mean of N1-N8 historical data)
361.30715 = 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		
4/25/2006	750	-0.5258684	0	5	4.5
10/20/2006	2.5	-2.5947452	0	5	4.5
4/25/2007	50	-2.4632781	0	5	4.5
10/31/2007	516	-1.1735168	0	5	4.5
4/23/2008	151	-2.1837376	0	5	4.5
10/20/2008	182	-2.097938	0	5	4.5
4/22/2009	163	-2.1505248	0	5	4.5
10/26/2009	209	-2.0232093	0	5	4.5
4/22/2010	150	-2.1865053	0	5	4.5
10/27/2010	190	-2.0757962	0	5	4.5
4/29/2011	196	-2.0591898	0	5	4.5
10/25/2011	238	-1.9429452	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 J11-1957-27

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

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**11000**	**5**
4/28/2003	**2800**	**5**
10/30/2003	**4900**	**5**
4/20/2004	**2000**	**5**
10/21/2004	**4900**	**5**
4/18/2005	**3700**	**5**
10/13/2005	**2700**	**5**
4/25/2006	**2700**	**500**
10/20/2006	**650**	**5**
4/25/2007	**600**	**100**
10/31/2007	**872**	**5**
4/23/2008	**361**	**5**
10/20/2008	**245**	**5**
4/22/2009	NS	**5**
10/26/2009	**178**	**5**
4/22/2010	**74.8**	**5**
10/27/2010	**111**	**5**
4/29/2011	**125**	**5**
10/25/2011	**123**	**5**

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

11000	X_i values =	7.018E+11
2800		323786680
4900		2.164E+10
2000		-1455275.6
4900		2.164E+10
3700		3.995E+09
2700		201929102
2700		201929102
650		-3.133E+09
600		-3.466E+09
872		-1.913E+09
361		-5.381E+09
245		-6.522E+09
178		-7.249E+09
74.8		-8.471E+09
111		-8.028E+09
125		-7.861E+09
123		-7.884E+09

X_{bar} = 2113.3222
SD = 2771.2094
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = 3.833E+10
γ_1= 1.9621948

Since the Coefficient of Skewness of 1.96 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	9.3056506	X_i values =	17.535743
	7.9373747		1.8596762
	8.4969905		5.7291256
	7.6009025		0.7127569
	8.4969905		5.7291256
	8.2160881		3.4323661
	7.9010071		1.699516
	7.9010071		1.699516
	6.4769724		-0.0122728
	6.3969297		-0.0299954
	6.7707894		0.0002519
	5.888878		-0.5488688
	5.5012582		-1.7557036
	5.1817836		-3.5525367
	4.3148179		-13.700287
	4.7095302		-7.9773046
	4.8283137		-6.6375003

4.8121844	-6.8098712

X_{bar} = 6.7076371
SD = 1.5725102
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.1459035
γ_1 = 0.0408809

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

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**11000**	5	9.3056506
4/28/2003	**2800**	5	7.9373747
10/30/2003	**4900**	5	8.4969905
4/20/2004	**2000**	5	7.6009025
10/21/2004	**4900**	5	8.4969905
4/18/2005	**3700**	5	8.2160881
10/13/2005	**2700**	5	7.9010071
4/25/2006	**2700**	500	7.9010071
10/20/2006	**650**	5	6.4769724
4/25/2007	**600**	100	6.3969297
10/31/2007	**872**	5	6.7707894
4/23/2008	**361**	5	5.888878
10/20/2008	**245**	5	5.5012582
4/22/2009	NS	5	-
10/26/2009	**178**	5	5.1817836
4/22/2010	**74.8**	5	4.3148179
10/27/2010	**111**	5	4.7095302
4/29/2011	**125**	5	4.8283137
10/25/2011	**123**	5	4.8121844

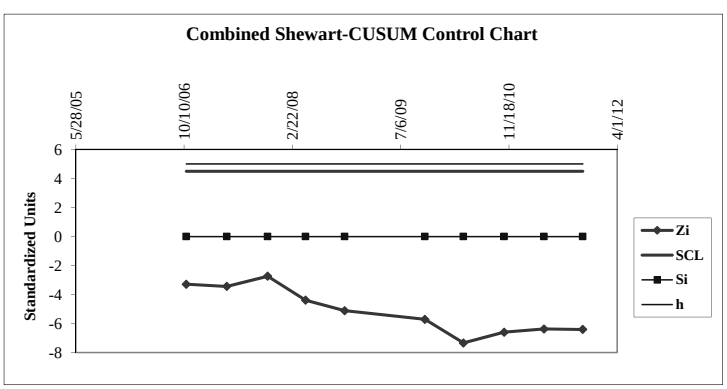
Compute the mean and standard deviation of the historical data:

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

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

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	6.4769724	-3.2853144	0	5	4.5
4/25/2007	6.3969297	-3.4351498	0	5	4.5
10/31/2007	6.7707894	-2.7353056	0	5	4.5
4/23/2008	5.888878	-4.3861937	0	5	4.5
10/20/2008	5.5012582	-5.1117958	0	5	4.5
10/26/2009	5.1817836	-5.7098342	0	5	4.5
4/22/2010	4.3148179	-7.3327445	0	5	4.5
10/27/2010	4.7095302	-6.5938655	0	5	4.5
4/29/2011	4.8283137	-6.3715095	0	5	4.5
10/25/2011	4.8121844	-6.4017028	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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**4.4**	NS	NS	ND	**2**	ND	**2.2**	ND	ND	ND	NS	**2**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**2**
04/09/01	**2.3**	**7**	NS	ND	ND	ND	ND	ND	**2.4**	**4.8**	NS	**2**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
04/15/02	**2.1**	ND	NS	ND	ND	ND	ND	ND	**2.5**	**5**	NS	**2**
09/26/02	ND	**7**	**2.1**	**5.1**	ND	ND	ND	ND	**8.5**	**4.7**	**95**	**2**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	**2**	**2.2**	**20**	**2**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	**2.4**	ND	**33**	**1**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**21**	**1**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.4**	**28**	**1**
04/18/05	ND	ND	ND	**7.2**	ND	ND	ND	ND	ND	**3.8**	**26**	**1**
10/13/05	ND	ND	ND	**3**	ND	ND	ND	ND	ND	**3.4**	**21**	**1**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	**2.1**	ND	**17**	**2**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.7**	**1**
04/25/07	ND	ND	ND	ND	ND	**14**	ND	ND	ND	ND	**4.9**	**1**
10/31/07	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	**3**	**1**
10/20/08	ND	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	**1.9**	**1**
04/22/09	ND	ND	**1.5**	ND	ND	ND	ND	ND	ND	ND	NS	**1**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	**1.7**	**1**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**1**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.1**	**1**
10/25/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.6**	**1**
N_i	24	23	18	22	22	22	20	20	21	22	18	
sum of rank values (R_i)	2611.0	2532.0	1913.0	2452.5	2192.5	2219.0	2007.5	1900.0	2663.5	2882.5	3654.5	
avg rank value (Rbar)	108.8	110.1	106.3	111.5	99.7	100.9	100.4	95.0	126.8	131.0	203.0	

	Number of each rank value											Rank Value
rank value of NDs =	21	20	16	19	21	21	19	20	15	15	2	95
rank value of 1.1s =	0	0	0	0	0	0	0	0	0	0	1	190
rank value of 1.2s =	0	1	0	0	0	0	0	0	0	0	0	191
rank value of 1.4s =	0	0	0	0	0	0	0	0	0	1	0	192
rank value of 1.5s =	0	0	1	0	0	0	0	0	0	0	0	193
rank value of 1.6s =	0	0	0	0	0	0	0	0	0	0	1	194
rank value of 1.7s =	0	0	0	0	0	0	0	0	0	0	1	195
rank value of 1.9s =	0	0	0	0	0	0	0	0	0	0	1	196
rank value of 2s =	0	0	0	0	1	0	0	0	1	0	0	197.5
rank value of 2.1s =	1	0	1	0	0	0	0	0	1	0	0	200
rank value of 2.2s =	0	0	0	0	0	0	1	0	0	1	0	202.5
rank value of 2.3s =	1	0	0	0	0	0	0	0	0	0	0	204
rank value of 2.4s =	0	0	0	0	0	0	0	0	2	0	0	205.5
rank value of 2.5s =	0	0	0	0	0	0	0	0	1	0	0	207
rank value of 3s =	0	0	0	1	0	0	0	0	0	0	1	208.5
rank value of 3.4s =	0	0	0	0	0	0	0	0	0	1	0	210
rank value of 3.8s =	0	0	0	0	0	0	0	0	0	1	0	211
rank value of 4.4s =	1	0	0	0	0	0	0	0	0	0	0	212
rank value of 4.5s =	0	0	0	0	0	0	0	0	0	1	0	213
rank value of 4.7s =	0	0	0	0	0	0	0	0	0	1	0	214

rank value of 4.8s =	0	0	0	0	0	0	0	0	0	1	0	215
rank value of 4.9s =	0	0	0	0	0	0	0	0	0	0	1	216
rank value of 5.1s =	0	0	0	1	0	0	0	0	0	0	0	217
rank value of 5.7s =	0	0	0	0	0	0	0	0	0	0	1	218
rank value of 6s =	0	0	0	0	0	0	0	0	0	0	1	219
rank value of 7s =	0	2	0	0	0	0	0	0	0	0	0	220.5
rank value of 7.2s =	0	0	0	1	0	0	0	0	0	0	0	222
rank value of 8.5s =	0	0	0	0	0	0	0	0	1	0	0	223
rank value of 14s =	0	0	0	0	0	1	0	0	0	0	0	224
rank value of 17s =	0	0	0	0	0	0	0	0	0	0	1	225
rank value of 20s =	0	0	0	0	0	0	0	0	0	0	1	226
rank value of 21s =	0	0	0	0	0	0	0	0	0	0	2	227.5
rank value of 26s =	0	0	0	0	0	0	0	0	0	0	1	229
rank value of 28s =	0	0	0	0	0	0	0	0	0	0	1	230
rank value of 33s =	0	0	0	0	0	0	0	0	0	0	1	231
rank value of 95s =	0	0	0	0	0	0	0	0	0	0	1	232
n =	**24**	**23**	**18**	**22**	**22**	**22**	**20**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

1995	1900	1520	1805	1995	1995	1805	1900	1425	1425	190
0	0	0	0	0	0	0	0	0	0	190
0	191	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	192	0
0	0	193	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	195
0	0	0	0	0	0	0	0	0	0	196
0	0	0	0	197.5	0	0	0	197.5	0	0
200	0	200	0	0	0	0	0	200	0	0
0	0	0	0	0	0	202.5	0	0	202.5	0
204	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	411	0	0
0	0	0	0	0	0	0	0	207	0	0
0	0	0	208.5	0	0	0	0	0	0	208.5
0	0	0	0	0	0	0	0	0	210	0
0	0	0	0	0	0	0	0	0	211	0
212	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	214	0
0	0	0	0	0	0	0	0	0	215	0
0	0	0	0	0	0	0	0	0	0	216
0	0	0	217	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	218
0	0	0	0	0	0	0	0	0	0	219
0	441	0	0	0	0	0	0	0	0	0
0	0	0	222	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	223	0	0
0	0	0	0	0	224	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	225
0	0	0	0	0	0	0	0	0	0	226
0	0	0	0	0	0	0	0	0	0	455
0	0	0	0	0	0	0	0	0	0	229
0	0	0	0	0	0	0	0	0	0	230
0	0	0	0	0	0	0	0	0	0	231
0	0	0	0	0	0	0	0	0	0	232

sum of rank values (R_i)	**2611**	**2532**	**1913**	**2452.5**	**2192.5**	**2219**	**2007.5**	**1900**	**2663.5**	**2882.5**	**3654.5**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	765955.9	273398	218503	223816	201503	180500	337821	377673	741965

$N_{i\,bg}$ = 65
N = 232
H = 38.27

Adjust H for ties:

T_i = 7E+06 sum of T1..T6

$H' = H/(1-(T_i/(N^3-N)))$
H' = 83.30
Chi-square = 15.51

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 15.51 which is less than H' =83.30.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	**MW-15**
Rbar (well x) =	111.5	99.7	100.9	100.4	95.0	126.8	131.0	203.0
avg Rbar (background) =	108.6	108.6	108.6	108.6	108.6	108.6	108.6	108.6
Dx =	2.9	-8.9	-7.7	-8.2	-13.6	18.3	22.5	94.5
Cx =	38.6	38.6	38.6	40.0	40.0	39.3	38.6	41.7
Statistical Significance ?	No	No	No	No	No	No	No	**Yes**
If SSI, is current event above MCL?	-	-	-	-	-	-	-	NE

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

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**95**	**2**
4/28/2003	**20**	**2**
10/30/2003	**33**	**1**
4/20/2004	**21**	**1**
10/21/2004	**28**	**1**
4/18/2005	**26**	**1**
10/13/2005	**21**	**1**
4/25/2006	**17**	**2**
10/20/2006	**5.7**	**1**
4/25/2007	**4.9**	**1**
10/31/2007	**6**	**1**
4/23/2008	**3**	**1**
10/20/2008	**1.9**	**1**
4/22/2009	NS	**1**
10/26/2009	**1.7**	**1**
4/22/2010	ND	**1**
10/27/2010	ND	**1**
4/29/2011	**1.1**	**1**
10/25/2011	**1.6**	**1**

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

95	X_i values =	493143.02
20		64.267037
33		4917.8182
21		125.41713
28		1730.4011
26		1001.6676
21		125.41713
17		1.0167594
5.7		-1090.96
4.9		-1365.579
6		-998.3343
3		-2194.185
1.9		-2799.909
1.7		-2920.8
0.5		-3719.872
0.5		-3719.872
1.1		-3304.25
1.6		-2982.529

X_{bar} =	15.994444
SD =	22.560337
N =	18
$1/N\Sigma_i(X_i-X_{bar})^3$ =	26445.152
γ_1=	2.5092545

Since the Coefficient of Skewness of 2.51 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	4.5538769	X_i values = 19.97547
	2.9957323	1.5414505
	3.4965076	4.540799
	3.0445224	1.7451331
	3.3322045	3.3188507
	3.2580965	2.8483547
	3.0445224	1.7451331
	2.8332133	0.9780935
	1.7404662	-0.001003
	1.5892352	-0.015877
	1.7917595	-0.000116
	1.0986123	-0.408448
	0.6418539	-1.722457
	0.5306283	-2.247788
	-0.693147	-16.26575
	-0.693147	-16.26575
	0.0953102	-5.315938

0.4700036	-2.57454

X_{bar} = 1.8405695
SD = 1.5548791
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.451355
γ_1= 0.1308168

Since the Coefficient of Skewness of 0.13 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**95**	2	4.5538769
4/28/2003	**20**	2	2.9957323
10/30/2003	**33**	1	3.4965076
4/20/2004	**21**	1	3.0445224
10/21/2004	**28**	1	3.3322045
4/18/2005	**26**	1	3.2580965
10/13/2005	**21**	1	3.0445224
4/25/2006	**17**	2	2.8332133
10/20/2006	**5.7**	1	1.7404662
4/25/2007	**4.9**	1	1.5892352
10/31/2007	**6**	1	1.7917595
4/23/2008	**3**	1	1.0986123
10/20/2008	**1.9**	1	0.6418539
4/22/2009	NS	1	-
10/26/2009	**1.7**	1	0.5306283
4/22/2010	ND	1	-0.693147
10/27/2010	ND	1	-0.693147
4/29/2011	**1.1**	1	0.0953102
10/25/2011	**1.6**	1	0.4700036

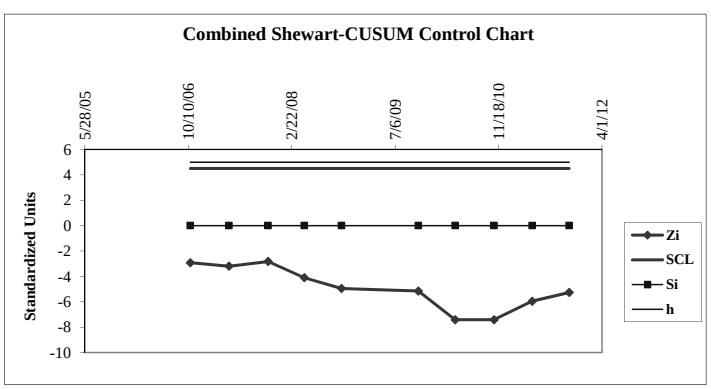
Compute the mean and standard deviation of the historical data:

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

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

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	1.7404662	-2.9174229	0	5	4.5
4/25/2007	1.5892352	-3.1967781	0	5	4.5
10/31/2007	1.7917595	-2.8226735	0	5	4.5
4/23/2008	1.0986123	-4.103061	0	5	4.5
10/20/2008	0.6418539	-4.9467891	0	5	4.5
10/26/2009	0.5306283	-5.152246	0	5	4.5
4/22/2010	-0.693147	-7.4128146	0	5	4.5
10/27/2010	-0.693147	-7.4128146	0	5	4.5
4/29/2011	0.0953102	-5.9563693	0	5	4.5
10/25/2011	0.4700036	-5.2642324	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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**2**	NS	NS	ND	**1.3**	**1.2**	**1.3**	**2.1**	ND	**5.4**	NS	**1**
06/26/00	**1.6**	ND	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	**1**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**1**
04/09/01	**130**	**2**	NS	ND	ND	ND	**1.7**	**1.8**	**2.7**	**19**	NS	**1**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1**
04/15/02	**13**	ND	NS	ND	ND	ND	**4**	ND	**5.5**	**19**	NS	**10**
09/26/02	ND	ND	**4.2**	**21**	ND	**10**	ND	**2.3**	**4.2**	**19**	**180**	**1**
04/28/03	**3.6**	ND	ND	**6**	ND	ND	ND	ND	**2.9**	**16**	**20**	**1**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/20/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8.8**	**8.9**	**1**
10/21/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
10/13/05	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	**1**
10/20/06	**3.8**	ND	ND	ND	ND	ND	ND	ND	**1.5**	ND	**5.2**	**1**
04/25/07	ND	ND	ND	ND	ND	**2.2**	ND	ND	ND	ND	ND	**1**
10/31/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.6**	**1**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**1**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	**1**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**1**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
10/25/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**
N_i	24	23	18	22	22	22	20	20	21	22	18	
sum of rank values (R_i)	3137.5	2463.0	1873.0	2400.0	2245.0	2478.5	2271.0	2274.5	2612.5	2905.0	2368.0	
avg rank value (Rbar)	130.7	107.1	104.1	109.1	102.0	112.7	113.6	113.7	124.4	132.0	131.6	

	Number of each rank value											Rank Value
rank value of NDs =	17	21	17	20	21	19	17	17	16	16	13	97.5
rank value of 1.1s =	1	0	0	0	0	0	0	0	0	0	0	195
rank value of 1.2s =	0	0	0	0	0	1	0	0	0	0	0	196
rank value of 1.3s =	0	0	0	0	1	0	1	0	0	0	0	197.5
rank value of 1.5s =	0	0	0	0	0	0	0	0	1	0	0	199
rank value of 1.6s =	1	0	0	0	0	0	0	0	0	0	1	200.5
rank value of 1.7s =	0	0	0	0	0	0	1	0	0	0	0	202
rank value of 1.8s =	0	0	0	0	0	0	0	1	0	0	0	203
rank value of 2s =	1	1	0	0	0	0	0	0	0	0	0	204.5

rank value of 2.1s =	0	0	0	0	0	0	0	1	0	0	0	206
rank value of 2.2s =	0	0	0	0	0	1	0	0	0	0	0	207
rank value of 2.3s =	0	0	0	0	0	0	0	1	0	0	0	208
rank value of 2.7s =	0	0	0	0	0	0	0	0	1	0	0	209
rank value of 2.9s =	0	0	0	0	0	0	0	0	1	0	0	210
rank value of 3.2s =	0	1	0	0	0	0	0	0	0	0	0	211
rank value of 3.6s =	1	0	0	0	0	0	0	0	0	0	0	212
rank value of 3.8s =	1	0	0	0	0	0	0	0	0	0	0	213
rank value of 4s =	0	0	0	0	0	0	1	0	0	0	0	214
rank value of 4.2s =	0	0	1	0	0	0	0	0	1	0	0	215.5
rank value of 5.2s =	0	0	0	0	0	0	0	0	0	0	1	217
rank value of 5.4s =	0	0	0	0	0	0	0	0	0	1	0	218
rank value of 5.5s =	0	0	0	0	0	0	0	0	1	0	0	219
rank value of 6s =	0	0	0	1	0	0	0	0	0	0	0	220
rank value of 8.8s =	0	0	0	0	0	0	0	0	0	1	0	221
rank value of 8.9s =	0	0	0	0	0	0	0	0	0	0	1	222
rank value of 10s =	0	0	0	0	0	1	0	0	0	0	0	223
rank value of 13s =	1	0	0	0	0	0	0	0	0	0	0	224
rank value of 16s =	0	0	0	0	0	0	0	0	0	1	0	225
rank value of 19s =	0	0	0	0	0	0	0	0	0	3	0	227
rank value of 20s =	0	0	0	0	0	0	0	0	0	0	1	229
rank value of 21s =	0	0	0	1	0	0	0	0	0	0	0	230
rank value of 130s =	1	0	0	0	0	0	0	0	0	0	0	231
rank value of 180s =	0	0	0	0	0	0	0	0	0	0	1	232
n =	**24**	**23**	**18**	**22**	**22**	**22**	**20**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

1657.5	2047.5	1657.5	1950	2047.5	1852.5	1657.5	1657.5	1560	1560	1267.5
195	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	197.5	0	197.5	0	0	0	0
0	0	0	0	0	0	0	0	199	0	0
200.5	0	0	0	0	0	0	0	0	0	200.5
0	0	0	0	0	0	202	0	0	0	0
0	0	0	0	0	0	0	203	0	0	0
204.5	204.5	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	207	0	0	0	0	0
0	0	0	0	0	0	0	208	0	0	0
0	0	0	0	0	0	0	0	209	0	0
0	0	0	0	0	0	0	0	210	0	0
0	211	0	0	0	0	0	0	0	0	0
212	0	0	0	0	0	0	0	0	0	0

213	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	214	0	0	0	0
0	0	215.5	0	0	0	0	0	215.5	0	0
0	0	0	0	0	0	0	0	0	0	217
0	0	0	0	0	0	0	0	0	218	0
0	0	0	0	0	0	0	0	219	0	0
0	0	0	220	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	221	0
0	0	0	0	0	0	0	0	0	0	222
0	0	0	0	0	223	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	225	0
0	0	0	0	0	0	0	0	0	681	0
0	0	0	0	0	0	0	0	0	0	229
0	0	0	230	0	0	0	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	232

sum of rank values (R_i)	**3137.5**	**2463**	**1873**	**2400**	**2245**	**2478.5**	**2271**	**2274.5**	**2612.5**	**2905**	**2368**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	859280.0	261818	229092	279226	257872	258668	325007	383592	311524

$N_{i\,bg}$ = 65
N = 232
H = 3.84

Adjust H for ties:

T_i = 7E+06 sum of T1..T4

$H' = H/(1-(T_i/(N^3-N)))$
H' = 9.26
Chi-square = 15.51

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 15.51 which is greater than H' =9.26.
Therefore, the null hypothesis of no contamination at the 5% level holds true
and significant evidence of contamination does not exist.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**15**	NS	NS	**18**	**17**	**11**	ND	**26**	**5.4**	**50**	NS	**5**
06/26/00	**22**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
07/26/00	**29**	**20**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**10**
04/09/01	**130**	ND	NS	**11**	**8.4**	ND	ND	**20**	**27**	**160**	NS	**5**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
04/15/02	**170**	ND	NS	ND	ND	**5.7**	**7**	**10**	**56**	**180**	NS	**5**
09/26/02	**33**	**5.4**	**33**	**510**	ND	**5.2**	ND	**37**	**36**	**230**	**770**	**5**
04/28/03	ND	ND	ND	**89**	ND	ND	ND	ND	ND	**110**	**27**	**5**
10/30/03	**30**	ND	NT	ND	**6.2**	ND	ND	ND	**31**	**4.6**	**140**	**2**
04/20/04	**33**	ND	**2.1**	**45**	**13**	ND	ND	**11**	**3.5**	**190**	**68**	**2**
10/21/04	**21**	ND	**2.8**	**16**	**2**	ND	ND	ND	ND	**120**	**140**	**2**
04/18/05	**49**	**12**	**8.3**	**680**	**2.9**	ND	ND	**3.2**	ND	**210**	**100**	**2**
10/13/05	**52**	ND	**3.7**	**230**	**4.7**	ND	ND	ND	ND	**150**	**88**	**2**
04/25/06	**65**	ND	**16**	ND	ND	ND	ND	ND	**16**	**100**	**93**	**10**
10/20/06	**50**	ND	**11**	**24**	ND	ND	ND	ND	**17**	ND	**27**	**5**
04/25/07	**20**	ND	ND	**16**	ND	**410**	ND	ND	ND	ND	**17**	**10**
10/31/07	**40.9**	ND	**11.9**	**10.9**	**7.8**	ND	ND	ND	**5.1**	**75.5**	**33.7**	**5**
04/23/08	**10.7**	ND	**16.8**	**7.8**	ND	ND	ND	ND	**7.6**	**7.3**	**14.9**	**5**
10/20/08	**38.6**	ND	**29.4**	**12.7**	ND	ND	ND	ND	ND	ND	**6.8**	**5**
04/22/09	**12.3**	ND	**28.9**	**19.7**	**5.1**	ND	ND	ND	**7.3**	ND	NS	**5**
10/26/09	**10**	ND	**8.1**	ND	**18.7**	ND	NS	NS	NS	**10.9**	**8.1**	**5**
04/22/10	**14.3**	**10.9**	**13.1**	ND	ND	ND	NS	NS	ND	ND	ND	**5**
10/27/10	**10.1**	ND	**6.6**	**7.1**	ND	ND	**12**	**9.2**	ND	ND	**5.2**	**5**
04/29/11	**8**	ND	**8.6**	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/25/11	**15**	ND	ND	**21.1**	ND	ND	**8.1**	ND	ND	**9.2**	**5.1**	**5**
N_i	24	23	18	22	22	22	20	20	21	22	18	
sum of rank values (R_i)	4262.5	1645.5	2432.5	3212.5	2022.5	1610.0	1351.0	1827.0	2292.5	3330.0	3042.0	
avg rank value (Rbar)	177.6	71.5	135.1	146.0	91.9	73.2	67.6	91.4	109.2	151.4	169.0	

	Number of each rank value											Rank Value
rank value of NDs =	1	19	3	6	12	18	17	13	10	7	2	54.5
rank value of 2s =	0	0	0	0	1	0	0	0	0	0	0	109
rank value of 2.1s =	0	0	1	0	0	0	0	0	0	0	0	110
rank value of 2.8s =	0	0	1	0	0	0	0	0	0	0	0	111
rank value of 2.9s =	0	0	0	0	1	0	0	0	0	0	0	112
rank value of 3.2s =	0	0	0	0	0	0	0	1	0	0	0	113
rank value of 3.5s =	0	0	0	0	0	0	0	0	1	0	0	114
rank value of 3.7s =	0	0	1	0	0	0	0	0	0	0	0	115
rank value of 4.6s =	0	0	0	0	0	0	0	0	0	1	0	116
rank value of 4.7s =	0	0	0	0	1	0	0	0	0	0	0	117
rank value of 5.1s =	0	0	0	0	1	0	0	0	1	0	1	119
rank value of 5.2s =	0	0	0	0	0	1	0	0	0	0	1	121.5
rank value of 5.4s =	0	1	0	0	0	0	0	0	1	0	0	123.5
rank value of 5.7s =	0	0	0	0	0	1	0	0	0	0	0	125
rank value of 6.2s =	0	0	0	0	1	0	0	0	0	0	0	126
rank value of 6.6s =	0	0	1	0	0	0	0	0	0	0	0	127
rank value of 6.8s =	0	0	0	0	0	0	0	0	0	0	1	128
rank value of 7s =	0	0	0	0	0	0	1	0	0	0	0	129
rank value of 7.1s =	0	0	0	1	0	0	0	0	0	0	0	130
rank value of 7.3s =	0	0	0	0	0	0	0	0	1	1	0	131.5
rank value of 7.6s =	0	0	0	0	0	0	0	0	1	0	0	133
rank value of 7.8s =	0	0	0	1	1	0	0	0	0	0	0	134.5
rank value of 8s =	1	0	0	0	0	0	0	0	0	0	0	136
rank value of 8.1s =	0	0	1	0	0	0	1	0	0	0	1	138
rank value of 8.3s =	0	0	1	0	0	0	0	0	0	0	0	140
rank value of 8.4s =	0	0	0	0	1	0	0	0	0	0	0	141

rank value of 8.6s =	0	0	1	0	0	0	0	0	0	0	0	142
rank value of 9.2s =	0	0	0	0	0	0	0	1	0	1	0	143.5
rank value of 10s =	1	0	0	0	0	0	0	1	0	0	0	145.5
rank value of 10.1s =	1	0	0	0	0	0	0	0	0	0	0	147
rank value of 10.7s =	1	0	0	0	0	0	0	0	0	0	0	148
rank value of 10.9s =	0	1	0	1	0	0	0	0	0	1	0	150
rank value of 11s =	0	0	1	1	0	1	0	1	0	0	0	153.5
rank value of 11.9s =	0	0	1	0	0	0	0	0	0	0	0	156
rank value of 12s =	0	1	0	0	0	0	1	0	0	0	0	157.5
rank value of 12.3s =	1	0	0	0	0	0	0	0	0	0	0	159
rank value of 12.7s =	0	0	0	1	0	0	0	0	0	0	0	160
rank value of 13s =	0	0	0	0	1	0	0	0	0	0	0	161
rank value of 13.1s =	0	0	1	0	0	0	0	0	0	0	0	162
rank value of 14.3s =	1	0	0	0	0	0	0	0	0	0	0	163
rank value of 14.9s =	0	0	0	0	0	0	0	0	0	0	1	164
rank value of 15s =	2	0	0	0	0	0	0	0	0	0	0	165.5
rank value of 16s =	0	0	1	2	0	0	0	0	1	0	0	168.5
rank value of 16.8s =	0	0	1	0	0	0	0	0	0	0	0	171
rank value of 17s =	0	0	0	0	1	0	0	0	1	0	1	173
rank value of 18s =	0	0	0	1	0	0	0	0	0	0	0	175
rank value of 18.7s =	0	0	0	0	1	0	0	0	0	0	0	176
rank value of 19.7s =	0	0	0	1	0	0	0	0	0	0	0	177
rank value of 20s =	1	1	0	0	0	0	0	1	0	0	0	179
rank value of 21s =	1	0	0	0	0	0	0	0	0	0	0	181
rank value of 21.1s =	0	0	0	1	0	0	0	0	0	0	0	182
rank value of 22s =	1	0	0	0	0	0	0	0	0	0	0	183
rank value of 24s =	0	0	0	1	0	0	0	0	0	0	0	184
rank value of 26s =	0	0	0	0	0	0	0	1	0	0	0	185
rank value of 27s =	0	0	0	0	0	0	0	0	1	0	2	187
rank value of 28.9s =	0	0	1	0	0	0	0	0	0	0	0	189
rank value of 29s =	1	0	0	0	0	0	0	0	0	0	0	190
rank value of 29.4s =	0	0	1	0	0	0	0	0	0	0	0	191
rank value of 30s =	1	0	0	0	0	0	0	0	0	0	0	192
rank value of 31s =	0	0	0	0	0	0	0	0	1	0	0	193
rank value of 33s =	2	0	1	0	0	0	0	0	0	0	0	195
rank value of 33.7s =	0	0	0	0	0	0	0	0	0	0	1	197
rank value of 36s =	0	0	0	0	0	0	0	0	1	0	0	198
rank value of 37s =	0	0	0	0	0	0	0	1	0	0	0	199
rank value of 38.6s =	1	0	0	0	0	0	0	0	0	0	0	200
rank value of 40.9s =	1	0	0	0	0	0	0	0	0	0	0	201
rank value of 45s =	0	0	0	1	0	0	0	0	0	0	0	202
rank value of 49s =	1	0	0	0	0	0	0	0	0	0	0	203
rank value of 50s =	1	0	0	0	0	0	0	0	0	1	0	204.5
rank value of 52s =	1	0	0	0	0	0	0	0	0	0	0	206
rank value of 56s =	0	0	0	0	0	0	0	0	1	0	0	207
rank value of 65s =	1	0	0	0	0	0	0	0	0	0	0	208
rank value of 68s =	0	0	0	0	0	0	0	0	0	0	1	209
rank value of 75.5s =	0	0	0	0	0	0	0	0	0	1	0	210
rank value of 88s =	0	0	0	0	0	0	0	0	0	0	1	211
rank value of 89s =	0	0	0	1	0	0	0	0	0	0	0	212
rank value of 93s =	0	0	0	0	0	0	0	0	0	0	1	213
rank value of 100s =	0	0	0	0	0	0	0	0	0	1	1	214.5
rank value of 110s =	0	0	0	0	0	0	0	0	0	1	0	216
rank value of 120s =	0	0	0	0	0	0	0	0	0	1	0	217
rank value of 130s =	1	0	0	0	0	0	0	0	0	0	0	218
rank value of 140s =	0	0	0	0	0	0	0	0	0	0	2	219.5
rank value of 150s =	0	0	0	0	0	0	0	0	0	1	0	221
rank value of 160s =	0	0	0	0	0	0	0	0	0	1	0	222
rank value of 170s =	1	0	0	0	0	0	0	0	0	0	0	223
rank value of 180s =	0	0	0	0	0	0	0	0	0	1	0	224
rank value of 190s =	0	0	0	0	0	0	0	0	0	1	0	225
rank value of 210s =	0	0	0	0	0	0	0	0	0	1	0	226
rank value of 230s =	0	0	0	1	0	0	0	0	0	1	0	227.5
rank value of 410s =	0	0	0	0	0	1	0	0	0	0	0	229
rank value of 510s =	0	0	0	1	0	0	0	0	0	0	0	230
rank value of 680s =	0	0	0	1	0	0	0	0	0	0	0	231
rank value of 770s =	0	0	0	0	0	0	0	0	0	0	1	232
n =	**24**	**23**	**18**	**22**	**22**	**22**	**20**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

54.5	1035.5	163.5	327	654	981	926.5	708.5	545	381.5	109
0	0	0	0	109	0	0	0	0	0	0

0	0	110	0	0	0	0	0	0	0	0
0	0	111	0	0	0	0	0	0	0	0
0	0	0	0	112	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	114	0	0
0	0	115	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	116	0
0	0	0	0	117	0	0	0	0	0	0
0	0	0	0	119	0	0	0	119	0	119
0	0	0	0	0	121.5	0	0	0	0	121.5
0	123.5	0	0	0	0	0	0	123.5	0	0
0	0	0	0	0	125	0	0	0	0	0
0	0	0	0	126	0	0	0	0	0	0
0	0	127	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	129	0	0	0	0
0	0	0	130	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	131.5	131.5	0
0	0	0	0	0	0	0	0	133	0	0
0	0	0	134.5	134.5	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0
0	0	138	0	0	0	138	0	0	0	138
0	0	140	0	0	0	0	0	0	0	0
0	0	0	0	141	0	0	0	0	0	0
0	0	142	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	143.5	0	143.5	0
145.5	0	0	0	0	0	0	145.5	0	0	0
147	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0
0	150	0	150	0	0	0	0	0	150	0
0	0	153.5	153.5	0	153.5	0	153.5	0	0	0
0	0	156	0	0	0	0	0	0	0	0
0	157.5	0	0	0	0	157.5	0	0	0	0
159	0	0	0	0	0	0	0	0	0	0
0	0	0	160	0	0	0	0	0	0	0
0	0	0	0	161	0	0	0	0	0	0
0	0	162	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	164
331	0	0	0	0	0	0	0	0	0	0
0	0	168.5	337	0	0	0	0	168.5	0	0
0	0	171	0	0	0	0	0	0	0	0
0	0	0	0	173	0	0	0	173	0	173
0	0	0	175	0	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
179	179	0	0	0	0	0	179	0	0	0
181	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	185	0	0	0
0	0	0	0	0	0	0	0	187	0	374
0	0	189	0	0	0	0	0	0	0	0
190	0	0	0	0	0	0	0	0	0	0
0	0	191	0	0	0	0	0	0	0	0
192	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	193	0	0
390	0	195	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	197
0	0	0	0	0	0	0	0	198	0	0
0	0	0	0	0	0	0	199	0	0	0
200	0	0	0	0	0	0	0	0	0	0
201	0	0	0	0	0	0	0	0	0	0
0	0	0	202	0	0	0	0	0	0	0
203	0	0	0	0	0	0	0	0	0	0
204.5	0	0	0	0	0	0	0	0	204.5	0
206	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	207	0	0
208	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	209
0	0	0	0	0	0	0	0	0	210	0
0	0	0	0	0	0	0	0	0	0	211
0	0	0	212	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	214.5	214.5
	0	0	0	0	0	0	0	0	0	216	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	439
	0	0	0	0	0	0	0	0	0	221	0
	0	0	0	0	0	0	0	0	0	222	0
	223	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	225	0
	0	0	0	0	0	0	0	0	0	226	0
	0	0	0	227.5	0	0	0	0	0	227.5	0
	0	0	0	0	0	229	0	0	0	0	0
	0	0	0	230	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	0	232
sum of rank values (R_i)	**4262.5**	**1645.5**	**2432.5**	**3212.5**	**2022.5**	**1610**	**1351**	**1827**	**2292.5**	**3330**	**3042**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	1070214.5	469098	185932	117823	91260	166896	250265	504041	514098

$N_{i\,bg}$ = 65
N = 232
H = 49.03

Adjust H for ties:

T_i = 1E+06 sum of T1..T4

$H' = H/(1-(T_i/(N^3-N)))$
H' = 54.53
Chi-square = 15.51

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 15.51 which is less than H' =54.53.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15
Rbar (well x) =	146.0	91.9	73.2	67.6	91.4	109.2	151.4	169.0
avg Rbar (background) =	128.3	128.3	128.3	128.3	128.3	128.3	128.3	128.3
Dx =	17.7	-36.4	-55.1	-60.8	-37.0	-19.1	23.0	40.7
Cx =	38.6	38.6	38.6	40.0	40.0	39.3	38.6	41.7
Statistical Significance ?	No	No	No	No	No	No	No	No
If 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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	ND	NS	NS	ND	**8.2**	**5.4**	ND	**14**	ND	**16**	NS	**5**
06/26/00	**10**	ND	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	**5**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**10**
04/09/01	**54**	ND	NS	ND	ND	ND	**13**	**12**	**13**	**59**	NS	**5**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
04/15/02	**58**	ND	NS	ND	ND	ND	**18**	**8**	**21**	**82**	NS	**5**
09/26/02	**13**	**5.4**	**16**	**100**	ND	**16**	**7.4**	**21**	**19**	**85**	**560**	**5**
04/28/03	**21**	ND	ND	**37**	ND	ND	**6.9**	ND	**17**	**50**	**81**	**5**
10/30/03	**9**	ND	NT	ND	ND	ND	**5.7**	ND	**52**	**8.8**	**110**	**5**
04/20/04	**9.5**	ND	ND	**7.7**	**5.2**	ND	**13**	**6.4**	ND	**43**	**50**	**5**
10/21/04	**6.2**	ND	ND	ND	ND	ND	ND	ND	ND	**31**	**120**	**5**
04/18/05	**12**	ND	ND	**110**	ND	ND	ND	ND	ND	**36**	**70**	**5**
10/13/05	**21**	ND	ND	**32**	ND	ND	**5.1**	ND	ND	**29**	**56**	**5**
04/25/06	**16**	ND	ND	ND	ND	ND	ND	ND	ND	**25**	**57**	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/25/07	ND	ND	ND	ND	ND	**260**	ND	ND	ND	ND	ND	**10**
10/31/07	**16.8**	ND	ND	ND	**10.6**	ND	ND	ND	ND	ND	**17.6**	**5**
04/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**22.3**	**5**
10/20/08	**27**	**10.4**	**19.5**	**9.4**	**7.7**	ND	**12.6**	**5.3**	**7.1**	ND	**18.4**	**5**
04/22/09	**5**	**6.3**	**17.1**	**8.5**	**5.7**	ND	**7**	ND	**6.4**	ND	NS	**5**
10/26/09	ND	ND	ND	ND	**6**	ND	NS	NS	NS	ND	**6**	**5**
04/22/10	**5.6**	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**5**
10/27/10	ND	ND	ND	ND	ND	ND	**17.3**	**5.6**	ND	ND	**7.8**	**5**
04/29/11	ND	ND	ND	ND	**6.9**	ND	**8.9**	ND	ND	ND	ND	**5**
10/25/11	**5.3**	ND	ND	**6.4**	**6.3**	ND	**21**	ND	ND	ND	ND	**5**
N_i	24	23	18	22	22	22	20	20	21	22	18	
sum of rank values (R_i)	3582.0	1890.0	1641.0	2534.0	2262.0	1906.5	2661.0	2106.5	2304.5	3076.5	3064.0	
avg rank value (Rbar)	149.3	82.2	91.2	115.2	102.8	86.7	133.1	105.3	109.7	139.8	170.2	

	Number of each rank value											Rank Value
rank value of NDs =	7	20	15	14	14	19	8	13	14	11	5	70.5
rank value of 5s =	1	0	0	0	0	0	0	0	0	0	0	141
rank value of 5.1s =	0	0	0	0	0	0	1	0	0	0	0	142
rank value of 5.2s =	0	0	0	0	1	0	0	0	0	0	0	143
rank value of 5.3s =	1	0	0	0	0	0	0	1	0	0	0	144.5
rank value of 5.4s =	0	1	0	0	0	1	0	0	0	0	0	146.5
rank value of 5.6s =	1	0	0	0	0	0	0	1	0	0	0	148.5
rank value of 5.7s =	0	0	0	0	1	0	1	0	0	0	0	150.5
rank value of 6s =	0	0	0	0	1	0	0	0	0	0	1	152.5
rank value of 6.2s =	1	0	0	0	0	0	0	0	0	0	0	154
rank value of 6.3s =	0	1	0	0	1	0	0	0	0	0	0	155.5
rank value of 6.4s =	0	0	0	1	0	0	0	1	1	0	0	158
rank value of 6.9s =	0	0	0	0	1	0	1	0	0	0	0	160.5
rank value of 7s =	0	0	0	0	0	0	1	0	0	0	0	162
rank value of 7.1s =	0	0	0	0	0	0	0	0	1	0	0	163
rank value of 7.4s =	0	0	0	0	0	0	1	0	0	0	0	164
rank value of 7.7s =	0	0	0	1	1	0	0	0	0	0	0	165.5
rank value of 7.8s =	0	0	0	0	0	0	0	0	0	0	1	167
rank value of 8.2s =	0	0	0	0	1	0	0	1	0	0	0	168.5
rank value of 8.5s =	0	0	0	1	0	0	0	0	0	0	0	170
rank value of 8.8s =	0	0	0	0	0	0	0	0	0	1	0	171
rank value of 8.9s =	0	0	0	0	0	0	1	0	0	0	0	172
rank value of 9s =	1	0	0	0	0	0	0	0	0	0	0	173
rank value of 9.4s =	0	0	0	1	0	0	0	0	0	0	0	174
rank value of 9.5s =	1	0	0	0	0	0	0	0	0	0	0	175
rank value of 9.9s =	1	0	0	0	0	0	0	0	0	0	0	176

rank value of 10s =	1	0	0	0	0	0	0	0	0	0	0	177
rank value of 10.4s =	0	1	0	0	0	0	0	0	0	0	0	178
rank value of 10.6s =	0	0	0	0	1	0	0	0	0	0	0	179
rank value of 12s =	1	0	0	0	0	0	0	1	0	0	0	180.5
rank value of 12.6s =	0	0	0	0	0	0	1	0	0	0	0	182
rank value of 13s =	1	0	0	0	0	0	2	0	1	0	0	184.5
rank value of 14s =	0	0	0	0	0	0	0	1	0	0	0	187
rank value of 16s =	1	0	1	0	0	1	0	0	0	1	0	189.5
rank value of 16.8s =	1	0	0	0	0	0	0	0	0	0	0	192
rank value of 17s =	0	0	0	0	0	0	0	0	1	0	0	193
rank value of 17.1s =	0	0	1	0	0	0	0	0	0	0	0	194
rank value of 17.3s =	0	0	0	0	0	0	1	0	0	0	0	195
rank value of 17.6s =	0	0	0	0	0	0	0	0	0	0	1	196
rank value of 18s =	0	0	0	0	0	0	1	0	0	0	0	197
rank value of 18.4s =	0	0	0	0	0	0	0	0	0	0	1	198
rank value of 19s =	0	0	0	0	0	0	0	0	1	0	0	199
rank value of 19.5s =	0	0	1	0	0	0	0	0	0	0	0	200
rank value of 21s =	2	0	0	0	0	0	1	1	1	0	0	203
rank value of 22.3s =	0	0	0	0	0	0	0	0	0	0	1	206
rank value of 25s =	0	0	0	0	0	0	0	0	0	1	0	207
rank value of 27s =	1	0	0	0	0	0	0	0	0	0	0	208
rank value of 29s =	0	0	0	0	0	0	0	0	0	1	0	209
rank value of 31s =	0	0	0	0	0	0	0	0	0	1	0	210
rank value of 32s =	0	0	0	1	0	0	0	0	0	0	0	211
rank value of 36s =	0	0	0	0	0	0	0	0	0	1	0	212
rank value of 37s =	0	0	0	1	0	0	0	0	0	0	0	213
rank value of 43s =	0	0	0	0	0	0	0	0	0	1	0	214
rank value of 50s =	0	0	0	0	0	0	0	0	0	1	1	215.5
rank value of 52s =	0	0	0	0	0	0	0	0	1	0	0	217
rank value of 54s =	1	0	0	0	0	0	0	0	0	0	0	218
rank value of 56s =	0	0	0	0	0	0	0	0	0	0	1	219
rank value of 57s =	0	0	0	0	0	0	0	0	0	0	1	220
rank value of 58s =	1	0	0	0	0	0	0	0	0	0	0	221
rank value of 59s =	0	0	0	0	0	0	0	0	0	1	0	222
rank value of 70s =	0	0	0	0	0	0	0	0	0	0	1	223
rank value of 81s =	0	0	0	0	0	0	0	0	0	0	1	224
rank value of 82s =	0	0	0	0	0	0	0	0	0	1	0	225
rank value of 85s =	0	0	0	0	0	0	0	0	0	1	0	226
rank value of 100s =	0	0	0	1	0	0	0	0	0	0	0	227
rank value of 110s =	0	0	0	1	0	0	0	0	0	0	1	228.5
rank value of 120s =	0	0	0	0	0	0	0	0	0	0	1	230
rank value of 260s =	0	0	0	0	0	1	0	0	0	0	0	231
rank value of 560s =	0	0	0	0	0	0	0	0	0	0	1	232
n =	**24**	**23**	**18**	**22**	**22**	**22**	**20**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

493.5	1410	1057.5	987	987	1339.5	564	916.5	987	775.5	352.5

141	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	142	0	0	0	0
0	0	0	0	143	0	0	0	0	0	0
144.5	0	0	0	0	0	0	144.5	0	0	0
0	146.5	0	0	0	146.5	0	0	0	0	0
148.5	0	0	0	0	0	0	148.5	0	0	0
0	0	0	0	150.5	0	150.5	0	0	0	0
0	0	0	0	152.5	0	0	0	0	0	152.5
154	0	0	0	0	0	0	0	0	0	0
0	155.5	0	0	155.5	0	0	0	0	0	0
0	0	0	158	0	0	0	158	158	0	0
0	0	0	0	160.5	0	160.5	0	0	0	0
0	0	0	0	0	0	162	0	0	0	0
0	0	0	0	0	0	0	0	163	0	0
0	0	0	0	0	0	164	0	0	0	0
0	0	0	165.5	165.5	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	167
0	0	0	0	168.5	0	0	168.5	0	0	0
0	0	0	170	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	171	0
0	0	0	0	0	0	172	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0
0	0	0	174	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0
177	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	179	0	0	0	0	0	0
180.5	0	0	0	0	0	0	180.5	0	0	0
0	0	0	0	0	0	182	0	0	0	0
184.5	0	0	0	0	0	369	0	184.5	0	0
0	0	0	0	0	0	0	187	0	0	0
189.5	0	189.5	0	0	189.5	0	0	0	189.5	0
192	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	193	0	0
0	0	194	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	196
0	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	199	0	0
0	0	200	0	0	0	0	0	0	0	0
406	0	0	0	0	0	203	203	203	0	0
0	0	0	0	0	0	0	0	0	0	206
0	0	0	0	0	0	0	0	0	207	0
208	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	209	0
0	0	0	0	0	0	0	0	0	210	0
0	0	0	211	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	212	0
0	0	0	213	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	214	0
0	0	0	0	0	0	0	0	0	215.5	215.5
0	0	0	0	0	0	0	0	217	0	0
218	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	219
0	0	0	0	0	0	0	0	0	0	220
221	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	224
0	0	0	0	0	0	0	0	0	225	0
0	0	0	0	0	0	0	0	0	226	0
0	0	0	227	0	0	0	0	0	0	0
0	0	0	228.5	0	0	0	0	0	0	228.5
0	0	0	0	0	0	0	0	0	0	230
0	0	0	0	0	231	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	232

sum of rank values (R_i)	**3582**	**1890**	**1641**	**2534**	**2262**	**1906.5**	**2661**	**2106.5**	**2304.5**	**3076.5**	**3064**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	778381.1	291871	232575	165216	354046	221867	252891	430221	521561

$N_{i\,bg}$ = 65
N = 232
H = 22.17

Adjust H for ties:

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

$H' = H/(1-(T_i/(N^3-N)))$
H' = 28.41
Chi-square = 15.51

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 15.51 which is less than H' =28.41.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	**MW-15**
Rbar (well x) =	115.2	102.8	86.7	133.1	105.3	109.7	139.8	170.2
avg Rbar (background) =	109.4	109.4	109.4	109.4	109.4	109.4	109.4	109.4
Dx =	5.8	-6.6	-22.8	23.6	-4.1	0.3	30.4	60.8
Cx =	38.6	38.6	38.6	40.0	40.0	39.3	38.6	41.7
Statistical Significance ?	No	No	No	No	No	No	No	**Yes**
If SSI, is current event above MCL?	-	-	-	-	-	-	-	NE

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

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**560**	**5**
4/28/2003	**81**	**5**
10/30/2003	**110**	**5**
4/20/2004	**50**	**5**
10/21/2004	**120**	**5**
4/18/2005	**70**	**5**
10/13/2005	**56**	**5**
4/25/2006	**57**	**10**
10/20/2006	ND	**5**
4/25/2007	ND	**10**
10/31/2007	**17.6**	**5**
4/23/2008	**22.3**	**5**
10/20/2008	**18.4**	**5**
4/22/2009	NS	**5**
10/26/2009	**6**	**5**
4/22/2010	ND	**5**
10/27/2010	**7.8**	**5**
4/29/2011	ND	**5**
10/25/2011	ND	**5**

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

	X_i values =
560	120427743
81	3260.0796
110	84187.643
50	-4229.695
120	155962.2
70	56.084151
56	-1052.562
57	-771.6559
2.5	-258136.9
5	-228908.9
17.6	-114594.5
22.3	-84444.02
18.4	-109025.1
6	-217865.3
2.5	-258136.9
7.8	-198892.6
2.5	-258136.9
2.5	-258136.9

X_{bar} = 66.172222
SD = 129.00541
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = 6593270.9
γ_1= 3.3458969

Since the Coefficient of Skewness of 3.35 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	36.04285
4.3944492	2.569941
4.7004804	4.7059934
3.912023	0.6986268
4.7874917	5.4777605
4.2484952	1.8328474
4.0253517	1.0019564
4.0430513	1.0560704
0.9162907	-9.3727
1.6094379	-2.834723
2.8678989	-0.003855
3.1045867	0.0005098
2.9123507	-0.001418
1.7917595	-1.874245
0.9162907	-9.3727
2.0541237	-0.914301
0.9162907	-9.3727

0.9162907	-9.3727

X_{bar} = 3.0247
SD = 1.6326971
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = 0.5704007
γ_1= 0.1427903

Since the Coefficient of Skewness of 0.14 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**560**	5	6.3279368
4/28/2003	**81**	5	4.3944492
10/30/2003	**110**	5	4.7004804
4/20/2004	**50**	5	3.912023
10/21/2004	**120**	5	4.7874917
4/18/2005	**70**	5	4.2484952
10/13/2005	**56**	5	4.0253517
4/25/2006	**57**	10	4.0430513
10/20/2006	ND	5	0.9162907
4/25/2007	ND	10	1.6094379
10/31/2007	**17.6**	5	2.8678989
4/23/2008	**22.3**	5	3.1045867
10/20/2008	**18.4**	5	2.9123507
4/22/2009	NS	5	-
10/26/2009	**6**	5	1.7917595
4/22/2010	ND	5	0.9162907
10/27/2010	**7.8**	5	2.0541237
4/29/2011	ND	5	0.9162907
10/25/2011	ND	5	0.9162907

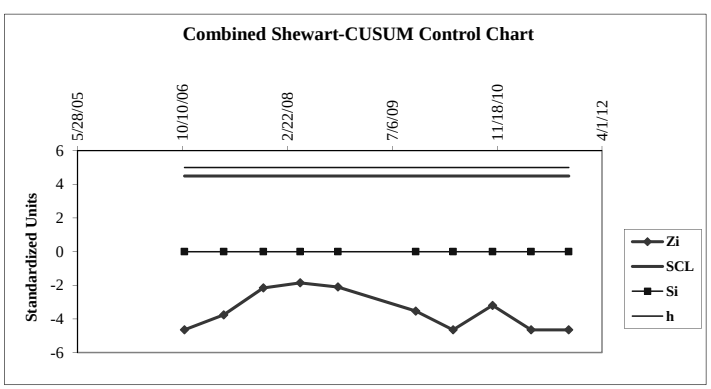
Compute the mean and standard deviation of the historical data:

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

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

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	0.9162907	-4.6455844	0	5	4.5
4/25/2007	1.6094379	-3.7606131	0	5	4.5
10/31/2007	2.8678989	-2.1538808	0	5	4.5
4/23/2008	3.1045867	-1.8516912	0	5	4.5
10/20/2008	2.9123507	-2.0971273	0	5	4.5
10/26/2009	1.7917595	-3.5278352	0	5	4.5
4/22/2010	0.9162907	-4.6455844	0	5	4.5
10/27/2010	2.0541237	-3.1928632	0	5	4.5
4/29/2011	0.9162907	-4.6455844	0	5	4.5
10/25/2011	0.9162907	-4.6455844	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h.

The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**12**	NS	NS	ND	ND	**13**	ND	**27**	ND	**22**	NS	**5**
06/26/00	**17**	**6**	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	**5**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**200**
04/09/01	**77**	**8.4**	NS	ND	ND	**5.4**	ND	**26**	**38**	**110**	NS	**5**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**200**
04/15/02	**69**	ND	NS	ND	ND	ND	ND	**13**	**68**	**120**	NS	**2**
09/26/02	**20**	**10**	**31**	**220**	ND	ND	**2.6**	**42**	**88**	**150**	**450**	**2**
04/28/03	**24**	ND	**2.6**	**40**	ND	ND	ND	ND	**28**	**94**	**71**	**2**
10/30/03	**18**	ND	NT	ND	**2.3**	**2.6**	ND	**3**	**85**	**4.4**	**150**	**2**
04/20/04	**18**	ND	**2.8**	**12**	**5.3**	**2.3**	**4.3**	**13**	**7.4**	**100**	**89**	**2**
10/21/04	**11**	ND	ND	**2**	ND	ND	ND	ND	ND	**63**	**140**	**2**
04/18/05	**29**	ND	ND	**240**	ND	ND	ND	**3.8**	ND	**120**	**130**	**2**
10/13/05	**31**	**2.6**	**3.5**	**70**	ND	ND	ND	ND	**3**	**82**	**96**	**2**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**200**
10/20/06	**26**	ND	ND	**9.6**	ND	ND	ND	ND	**20**	ND	**25**	**5**
04/25/07	**15**	ND	ND	ND	ND	**330**	ND	ND	ND	ND	**26**	**10**
10/31/07	**29.2**	ND	ND	ND	ND	ND	ND	ND	**6.3**	**40.3**	**47.4**	**5**
04/23/08	**7.2**	ND	ND	ND	ND	ND	ND	ND	**7.2**	ND	**17**	**5**
10/20/08	**26.5**	ND	**8.3**	ND	ND	ND	ND	ND	ND	ND	**9.7**	**5**
04/22/09	**5.1**	ND	**22.6**	**6**	ND	ND	ND	ND	**8.8**	ND	NS	**5**
10/26/09	**5.8**	ND	ND	ND	**6.4**	ND	NS	NS	NS	ND	**7.1**	**5**
04/22/10	**9.9**	ND	ND	ND	ND	**5.9**	NS	NS	ND	ND	ND	**5**
10/27/10	**6.7**	ND	ND	ND	ND	ND	ND	**12.4**	ND	ND	**53.9**	**5**
04/29/11	**6.4**	ND	ND	ND	**6.7**	**6.1**	ND	ND	ND	ND	**5.2**	**5**
10/25/11	**9.6**	ND	ND	**9.4**	**6.8**	**11.2**	**7.6**	ND	ND	**5.1**	**6.9**	**5**
N_i	24	23	18	22	22	22	20	20	21	22	18	
sum of rank values (R_i)	4215.5	1910.5	1720.0	2487.5	1818.0	2176.5	1513.0	2170.5	2642.5	3071.0	3303.0	
avg rank value (Rbar)	175.6	83.1	95.6	113.1	82.6	98.9	75.7	108.5	125.8	139.6	183.5	

	Number of each rank value											Rank Value
rank value of NDs =	1	18	12	13	17	14	17	12	10	10	2	63.5
rank value of 2s =	0	0	0	1	0	0	0	0	0	0	0	127
rank value of 2.3s =	0	0	0	0	1	1	0	0	0	0	0	128.5
rank value of 2.6s =	0	1	1	0	0	1	1	0	0	0	0	131.5
rank value of 2.8s =	0	0	1	0	0	0	0	0	0	0	0	134
rank value of 3s =	0	0	0	0	0	0	0	1	1	0	0	135.5
rank value of 3.5s =	0	0	1	0	0	0	0	0	0	0	0	137
rank value of 3.8s =	0	0	0	0	0	0	0	1	0	0	0	138
rank value of 4.3s =	0	0	0	0	0	0	1	0	0	0	0	139
rank value of 4.4s =	0	0	0	0	0	0	0	0	0	1	0	140
rank value of 5.1s =	1	0	0	0	0	0	0	0	0	1	0	141.5
rank value of 5.2s =	0	0	0	0	0	0	0	0	0	0	1	143
rank value of 5.3s =	0	0	0	0	1	0	0	0	0	0	0	144
rank value of 5.4s =	0	0	0	0	0	1	0	0	0	0	0	145
rank value of 5.8s =	1	0	0	0	0	0	0	0	0	0	0	146
rank value of 5.9s =	0	0	0	0	0	1	0	0	0	0	0	147
rank value of 6s =	0	1	0	1	0	0	0	0	0	0	0	148.5
rank value of 6.1s =	0	1	0	0	0	1	0	0	0	0	0	150.5
rank value of 6.3s =	0	0	0	0	0	0	0	0	1	0	0	152
rank value of 6.4s =	1	0	0	0	1	0	0	0	0	0	0	153.5
rank value of 6.7s =	1	0	0	0	1	0	0	0	0	0	0	155.5
rank value of 6.8s =	0	0	0	0	1	0	0	0	0	0	0	157
rank value of 6.9s =	0	0	0	0	0	0	0	0	0	0	1	158
rank value of 7.1s =	0	0	0	0	0	0	0	0	0	0	1	159
rank value of 7.2s =	1	0	0	0	0	0	0	0	1	0	0	160.5
rank value of 7.4s =	0	0	0	0	0	0	0	0	1	0	0	162

rank value of 7.6s =	0	0	0	0	0	0	1	0	0	0	0	163
rank value of 8.3s =	0	0	1	0	0	0	0	0	0	0	0	164
rank value of 8.4s =	0	1	0	0	0	0	0	0	0	0	0	165
rank value of 8.8s =	0	0	0	0	0	0	0	0	1	0	0	166
rank value of 9.4s =	0	0	0	1	0	0	0	0	0	0	0	167
rank value of 9.6s =	1	0	0	1	0	0	0	0	0	0	0	168.5
rank value of 9.7s =	0	0	0	0	0	0	0	0	0	0	1	170
rank value of 9.9s =	1	0	0	0	0	0	0	0	0	0	0	171
rank value of 10s =	0	1	0	0	0	0	0	0	0	0	0	172
rank value of 11s =	1	0	0	0	0	0	0	0	0	0	0	173
rank value of 11.2s =	0	0	0	0	0	1	0	0	0	0	0	174
rank value of 12s =	2	0	0	1	0	0	0	0	0	0	0	176
rank value of 12.4s =	0	0	0	0	0	0	0	1	0	0	0	178
rank value of 13s =	0	0	0	0	0	1	0	2	0	0	0	180
rank value of 15s =	1	0	0	0	0	0	0	0	0	0	0	182
rank value of 17s =	1	0	0	0	0	0	0	0	0	0	1	183.5
rank value of 18s =	2	0	0	0	0	0	0	0	0	0	0	185.5
rank value of 20s =	1	0	0	0	0	0	0	0	1	0	0	187.5
rank value of 22s =	0	0	0	0	0	0	0	0	0	1	0	189
rank value of 22.6s =	0	0	1	0	0	0	0	0	0	0	0	190
rank value of 24s =	1	0	0	0	0	0	0	0	0	0	0	191
rank value of 25s =	0	0	0	0	0	0	0	0	0	0	1	192
rank value of 26s =	1	0	0	0	0	0	0	1	0	0	1	194
rank value of 26.5s =	1	0	0	0	0	0	0	0	0	0	0	196
rank value of 27s =	0	0	0	0	0	0	0	1	0	0	0	197
rank value of 28s =	0	0	0	0	0	0	0	0	1	0	0	198
rank value of 29s =	1	0	0	0	0	0	0	0	0	0	0	199
rank value of 29.2s =	1	0	0	0	0	0	0	0	0	0	0	200
rank value of 31s =	1	0	1	0	0	0	0	0	0	0	0	201.5
rank value of 38s =	0	0	0	0	0	0	0	0	1	0	0	203
rank value of 40s =	0	0	0	1	0	0	0	0	0	0	0	204
rank value of 40.3s =	0	0	0	0	0	0	0	0	0	1	0	205
rank value of 42s =	0	0	0	0	0	0	0	1	0	0	0	206
rank value of 47.4s =	0	0	0	0	0	0	0	0	0	0	1	207
rank value of 53.9s =	0	0	0	0	0	0	0	0	0	0	1	208
rank value of 63s =	0	0	0	0	0	0	0	0	0	1	0	209
rank value of 68s =	0	0	0	0	0	0	0	0	1	0	0	210
rank value of 69s =	1	0	0	0	0	0	0	0	0	0	0	211
rank value of 70s =	0	0	0	1	0	0	0	0	0	0	0	212
rank value of 71s =	0	0	0	0	0	0	0	0	0	0	1	213
rank value of 77s =	1	0	0	0	0	0	0	0	0	0	0	214
rank value of 82s =	0	0	0	0	0	0	0	0	0	1	0	215
rank value of 85s =	0	0	0	0	0	0	0	0	1	0	0	216
rank value of 88s =	0	0	0	0	0	0	0	0	1	0	0	217
rank value of 89s =	0	0	0	0	0	0	0	0	0	0	1	218
rank value of 94s =	0	0	0	0	0	0	0	0	0	1	0	219
rank value of 96s =	0	0	0	0	0	0	0	0	0	0	1	220
rank value of 100s =	0	0	0	0	0	0	0	0	0	1	0	221
rank value of 110s =	0	0	0	0	0	0	0	0	0	1	0	222
rank value of 120s =	0	0	0	0	0	0	0	0	0	2	0	223.5
rank value of 130s =	0	0	0	0	0	0	0	0	0	0	1	225
rank value of 140s =	0	0	0	0	0	0	0	0	0	0	1	226
rank value of 150s =	0	0	0	0	0	0	0	0	0	1	1	227.5
rank value of 220s =	0	0	0	1	0	0	0	0	0	0	0	229
rank value of 240s =	0	0	0	1	0	0	0	0	0	0	0	230
rank value of 330s =	0	0	0	0	0	1	0	0	0	0	0	231
rank value of 450s =	0	0	0	0	0	0	0	0	0	0	1	232
n =	**24**	**23**	**18**	**22**	**22**	**22**	**20**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

63.5	1143	762	825.5	1079.5	889	1079.5	762	635	635	127

0	0	0	127	0	0	0	0	0	0	0
0	0	0	0	128.5	128.5	0	0	0	0	0
0	131.5	131.5	0	0	131.5	131.5	0	0	0	0
0	0	134	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	135.5	135.5	0	0
0	0	137	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	139	0	0	0	0
0	0	0	0	0	0	0	0	0	140	0
141.5	0	0	0	0	0	0	0	0	141.5	0
0	0	0	0	0	0	0	0	0	0	143
0	0	0	0	144	0	0	0	0	0	0
0	0	0	0	0	145	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	147	0	0	0	0	0
0	148.5	0	148.5	0	0	0	0	0	0	0
0	150.5	0	0	0	150.5	0	0	0	0	0
0	0	0	0	0	0	0	0	152	0	0
153.5	0	0	0	153.5	0	0	0	0	0	0
155.5	0	0	0	155.5	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	158
0	0	0	0	0	0	0	0	0	0	159
160.5	0	0	0	0	0	0	0	160.5	0	0
0	0	0	0	0	0	0	0	162	0	0
0	0	0	0	0	0	163	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	166	0	0
0	0	0	167	0	0	0	0	0	0	0
168.5	0	0	168.5	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	170
171	0	0	0	0	0	0	0	0	0	0
0	172	0	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	174	0	0	0	0	0
352	0	0	176	0	0	0	0	0	0	0
0	0	0	0	0	0	0	178	0	0	0
0	0	0	0	0	180	0	360	0	0	0
182	0	0	0	0	0	0	0	0	0	0
183.5	0	0	0	0	0	0	0	0	0	183.5
371	0	0	0	0	0	0	0	0	0	0
187.5	0	0	0	0	0	0	0	187.5	0	0
0	0	0	0	0	0	0	0	0	189	0
0	0	190	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	192
194	0	0	0	0	0	0	194	0	0	194
196	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	197	0	0	0
0	0	0	0	0	0	0	0	198	0	0
199	0	0	0	0	0	0	0	0	0	0
200	0	0	0	0	0	0	0	0	0	0
201.5	0	201.5	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	203	0	0
0	0	0	204	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	205	0
0	0	0	0	0	0	0	206	0	0	0
0	0	0	0	0	0	0	0	0	0	207
0	0	0	0	0	0	0	0	0	0	208
0	0	0	0	0	0	0	0	0	209	0
0	0	0	0	0	0	0	0	210	0	0
211	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	213
214	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	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	218
0	0	0	0	0	0	0	0	0	219	0
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	222	0

	0	0	0	0	0	0	0	0	0	447	0
	0	0	0	0	0	0	0	0	0	0	225
	0	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	229	0	0	0	0	0	0	0
	0	0	0	230	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	232
sum of rank values (R_i)	**4215.5**	**1910.5**	**1720**	**2487.5**	**1818**	**2176.5**	**1513**	**2170.5**	**2642.5**	**3071**	**3303**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	947072.6	281257	150233	215325	114458	235554	332515	428684	606101

$N_{i\,bg}$ = 65
N = 232
H = 36.06

Adjust H for ties:

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

$H' = H/(1-(T_i/(N^3-N)))$
H' = 42.94
Chi-square = 15.51

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 15.51 which is less than H' =42.94.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	**MW-15**
Rbar (well x) =	113.1	82.6	98.9	75.7	108.5	125.8	139.6	183.5
avg Rbar (background) =	120.7	120.7	120.7	120.7	120.7	120.7	120.7	120.7
Dx =	-7.6	-38.1	-21.8	-45.1	-12.2	5.1	18.9	62.8
Cx =	38.6	38.6	38.6	40.0	40.0	39.3	38.6	41.7
Statistical Significance ?	No	No	No	No	No	No	No	**Yes**
If 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 J11-1957-27

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

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**450**	**2**
4/28/2003	**71**	**2**
10/30/2003	**150**	**2**
4/20/2004	**89**	**2**
10/21/2004	**140**	**2**
4/18/2005	**130**	**2**
10/13/2005	**96**	**2**
4/25/2006	ND	**200**
10/20/2006	**25**	**5**
4/25/2007	**26**	**10**
10/31/2007	**47.4**	**5**
4/23/2008	**17**	**5**
10/20/2008	**9.7**	**5**
4/22/2009	NS	**5**
10/26/2009	**7.1**	**5**
4/22/2010	ND	**5**
10/27/2010	**53.9**	**5**
4/29/2011	**5.2**	**5**
10/25/2011	**6.9**	**5**

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

450	X_i values =	50957068
71		-563.7874
150		353976.72
89		923.69423
140		224078.68
130		130623.96
96		4690.076
100		8919.8275
25		-159759.3
26		-151088.2
47.4		-32343.18
17		-241351.8
9.7		-336588.7
7.1		-375759.2
2.5		-452297.1
53.9		-16311.91
5.2		-406228.8
6.9		-378892.2

X_{bar} = 79.261111
SD = 105.0388
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = 2729394.3
γ_1= 2.5659748

Since the Coefficient of Skewness of 2.57 is greater than 1.0, the real data appear to be significantly skewed.
Do not assume that the data follow a Normal distribution.
Perform the Skewness Test on the natural log of the values.

ln =	6.1092476	X_i values = 15.867843
	4.2626799	0.2958309
	5.0106353	2.8287828
	4.4886364	0.7103863
	4.9416424	2.4346583
	4.8675345	2.0540592
	4.5643482	0.9069991
	4.6051702	1.0266566
	3.2188758	-0.05379
	3.2580965	-0.038706
	3.8586222	0.0180383
	2.8332133	-0.444455
	2.2721259	-2.322185
	1.9600948	-4.380897
	0.9162907	-19.25038
	3.9871305	0.0596701
	1.6486586	-7.388712

1.9315214	-4.614433

X_{bar} = 3.5963625
SD = 1.4178492
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.682813
γ_1= 0.2610038

Since the Coefficient of Skewness of 0.26 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**450**	2	6.1092476
4/28/2003	**71**	2	4.2626799
10/30/2003	**150**	2	5.0106353
4/20/2004	**89**	2	4.4886364
10/21/2004	**140**	2	4.9416424
4/18/2005	**130**	2	4.8675345
10/13/2005	**96**	2	4.5643482
4/25/2006	ND	200	4.6051702
10/20/2006	**25**	5	3.2188758
4/25/2007	**26**	10	3.2580965
10/31/2007	**47.4**	5	3.8586222
4/23/2008	**17**	5	2.8332133
10/20/2008	**9.7**	5	2.2721259
4/22/2009	NS	5	-
10/26/2009	**7.1**	5	1.9600948
4/22/2010	ND	5	0.9162907
10/27/2010	**53.9**	5	3.9871305
4/29/2011	**5.2**	5	1.6486586
10/25/2011	**6.9**	5	1.9315214

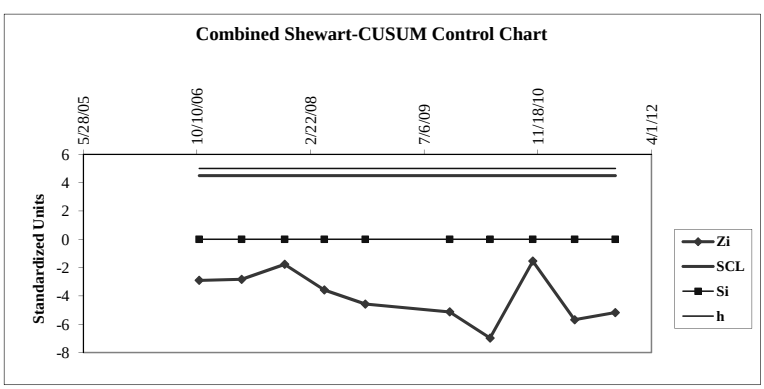
Compute the mean and standard deviation of the historical data:

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

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

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	3.2188758	-2.8964323	0	5	4.5
4/25/2007	3.2580965	-2.8270522	0	5	4.5
10/31/2007	3.8586222	-1.764744	0	5	4.5
4/23/2008	2.8332133	-3.5786552	0	5	4.5
10/20/2008	2.2721259	-4.5711986	0	5	4.5
10/26/2009	1.9600948	-5.1231703	0	5	4.5
4/22/2010	0.9162907	-6.9696219	0	5	4.5
10/27/2010	3.9871305	-1.5374176	0	5	4.5
4/29/2011	1.6486586	-5.6740896	0	5	4.5
10/25/2011	1.9315214	-5.1737156	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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**35**	NS	NS	ND	ND	ND	ND	**11**	ND	ND	NS	**10**
06/26/00	ND	**10**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	ND	NS	NS	**10**
04/09/01	ND	**59**	NS	ND	ND	ND	ND	ND	**18**	**2.5**	NS	**10**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
04/15/02	**13**	ND	NS	ND	ND	ND	ND	ND	**13**	**29**	NS	**10**
09/26/02	ND	**76**	**29**	ND	ND	ND	ND	ND	**150**	**20**	**740**	**10**
04/28/03	ND	ND	ND	ND	ND	ND	ND	ND	**25**	ND	**300**	**10**
10/30/03	**8.7**	**12**	NT	ND	ND	ND	ND	ND	**39**	**7.4**	**640**	**5**
04/20/04	**7.2**	**7**	**5.2**	**6.4**	**5.4**	ND	ND	ND	**12**	**39**	**250**	**5**
10/21/04	**7.2**	**5.6**	**5.7**	ND	ND	ND	ND	ND	ND	**24**	**430**	**5**
04/18/05	**13**	**8**	**5.2**	**73**	ND	ND	ND	ND	ND	**39**	**380**	**5**
10/13/05	**14**	**6.9**	ND	**20**	ND	ND	ND	ND	ND	**29**	**290**	**5**
04/25/06	**15**	ND	ND	ND	ND	ND	ND	ND	**53**	**19**	**300**	**10**
10/20/06	**20**	ND	ND	ND	ND	ND	ND	ND	**32**	ND	**89**	**5**
04/25/07	ND	ND	ND	ND	ND	**96**	ND	ND	ND	ND	**69**	**10**
10/31/07	**17.5**	**8.1**	ND	ND	ND	ND	ND	ND	ND	**12.3**	**123**	**5**
04/23/08	ND	ND	**8.4**	ND	ND	ND	ND	ND	**5.8**	ND	**50.2**	**5**
10/20/08	ND	**13.5**	**7.6**	ND	ND	ND	ND	ND	ND	ND	**25.9**	**5**
04/22/09	ND	**8.7**	**24.4**	ND	ND	ND	ND	ND	**9.8**	ND	NS	**5**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	**24.7**	**5**
04/22/10	ND	**10.5**	ND	ND	ND	ND	NS	NS	ND	ND	**9.2**	**5**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**16**	**5**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**11**	**5**
10/25/11	ND	ND	ND	ND	ND	ND	**6.3**	ND	ND	ND	**14.6**	**5**
N_i	24	23	18	22	22	22	20	20	22	22	18	
sum of rank values (R_i)	3019.5	3095.0	2132.0	2109.0	1843.0	1903.0	1687.0	1704.5	2954.5	2930.0	3883.5	
avg rank value (Rbar)	125.8	134.6	118.4	95.9	83.8	86.5	84.4	85.2	134.3	133.2	215.8	

	Number of each rank value											Rank Value
rank value of NDs =	14	11	11	19	21	21	19	19	12	12	0	80
rank value of 2.5s =	0	0	0	0	0	0	0	0	0	1	0	160
rank value of 5.2s =	0	0	2	0	0	0	0	0	0	0	0	161.5
rank value of 5.4s =	0	0	0	0	1	0	0	0	0	0	0	163
rank value of 5.6s =	0	1	0	0	0	0	0	0	0	0	0	164
rank value of 5.7s =	0	0	1	0	0	0	0	0	0	0	0	165
rank value of 5.8s =	0	0	0	0	0	0	0	0	1	0	0	166
rank value of 6.3s =	0	0	0	0	0	0	1	0	0	0	0	167
rank value of 6.4s =	0	0	0	1	0	0	0	0	0	0	0	168
rank value of 6.9s =	0	1	0	0	0	0	0	0	0	0	0	169
rank value of 7s =	0	1	0	0	0	0	0	0	0	0	0	170
rank value of 7.2s =	2	0	0	0	0	0	0	0	0	0	0	171.5
rank value of 7.4s =	0	0	0	0	0	0	0	0	0	1	0	173
rank value of 7.6s =	0	0	1	0	0	0	0	0	0	0	0	174
rank value of 8s =	0	1	0	0	0	0	0	0	0	0	0	175
rank value of 8.1s =	0	1	0	0	0	0	0	0	0	0	0	176

rank value of 8.4s =	0	0	1	0	0	0	0	0	0	0	0	177
rank value of 8.7s =	1	1	0	0	0	0	0	0	0	0	0	178.5
rank value of 9.2s =	0	0	0	0	0	0	0	0	0	0	1	180
rank value of 9.8s =	0	0	0	0	0	0	0	0	1	0	0	181
rank value of 10s =	0	1	0	0	0	0	0	0	0	0	0	182
rank value of 10.5s =	0	1	0	0	0	0	0	0	0	0	0	183
rank value of 11s =	0	0	0	0	0	0	0	1	0	0	1	184.5
rank value of 12s =	0	1	0	0	0	0	0	0	1	0	0	186.5
rank value of 12.3s =	0	0	0	0	0	0	0	0	0	1	0	188
rank value of 13s =	2	0	0	0	0	0	0	0	1	0	0	190
rank value of 13.5s =	0	1	0	0	0	0	0	0	0	0	0	192
rank value of 14s =	1	0	0	0	0	0	0	0	0	0	0	193
rank value of 14.6s =	0	0	0	0	0	0	0	0	0	0	1	194
rank value of 15s =	1	0	0	0	0	0	0	0	0	0	0	195
rank value of 16s =	0	0	0	0	0	0	0	0	0	0	1	196
rank value of 17.5s =	1	0	0	0	0	0	0	0	0	0	0	197
rank value of 18s =	0	0	0	0	0	0	0	0	1	0	0	198
rank value of 19s =	0	0	0	0	0	0	0	0	0	1	0	199
rank value of 20s =	1	0	0	1	0	0	0	0	0	1	0	201
rank value of 24s =	0	0	0	0	0	0	0	0	0	1	0	203
rank value of 24.4s =	0	0	1	0	0	0	0	0	0	0	0	204
rank value of 24.7s =	0	0	0	0	0	0	0	0	0	0	1	205
rank value of 25s =	0	0	0	0	0	0	0	0	1	0	0	206
rank value of 25.9s =	0	0	0	0	0	0	0	0	0	0	1	207
rank value of 29s =	0	0	1	0	0	0	0	0	0	2	0	209
rank value of 32s =	0	0	0	0	0	0	0	0	1	0	0	211
rank value of 35s =	1	0	0	0	0	0	0	0	0	0	0	212
rank value of 39s =	0	0	0	0	0	0	0	0	1	2	0	214
rank value of 50.2s =	0	0	0	0	0	0	0	0	0	0	1	216
rank value of 53s =	0	0	0	0	0	0	0	0	1	0	0	217
rank value of 59s =	0	1	0	0	0	0	0	0	0	0	0	218
rank value of 69s =	0	0	0	0	0	0	0	0	0	0	1	219
rank value of 73s =	0	0	0	1	0	0	0	0	0	0	0	220
rank value of 76s =	0	1	0	0	0	0	0	0	0	0	0	221
rank value of 89s =	0	0	0	0	0	0	0	0	0	0	1	222
rank value of 96s =	0	0	0	0	0	1	0	0	0	0	0	223
rank value of 123s =	0	0	0	0	0	0	0	0	0	0	1	224
rank value of 150s =	0	0	0	0	0	0	0	0	1	0	0	225
rank value of 250s =	0	0	0	0	0	0	0	0	0	0	1	226
rank value of 290s =	0	0	0	0	0	0	0	0	0	0	1	227
rank value of 300s =	0	0	0	0	0	0	0	0	0	0	2	228.5
rank value of 380s =	0	0	0	0	0	0	0	0	0	0	1	230
rank value of 430s =	0	0	0	0	0	0	0	0	0	0	1	231
rank value of 640s =	0	0	0	0	0	0	0	0	0	0	1	232
rank value of 740s =	0	0	0	0	0	0	0	0	0	0	1	233
n =	**24**	**23**	**18**	**22**	**22**	**22**	**20**	**20**	**22**	**22**	**18**	
Sum of rank value calculations	1120	880	880	1520	1680	1680	1520	1520	960	960	0	

0	0	0	0	0	0	0	0	0	160	0
0	0	323	0	0	0	0	0	0	0	0
0	0	0	0	163	0	0	0	0	0	0
0	164	0	0	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	166	0	0
0	0	0	0	0	0	167	0	0	0	0
0	0	0	168	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
343	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	173	0
0	0	174	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
0	0	177	0	0	0	0	0	0	0	0
178.5	178.5	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	180
0	0	0	0	0	0	0	0	181	0	0
0	182	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	184.5	0	0	184.5
0	186.5	0	0	0	0	0	0	186.5	0	0
0	0	0	0	0	0	0	0	0	188	0
380	0	0	0	0	0	0	0	190	0	0
0	192	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	194
195	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	196
197	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	198	0	0
0	0	0	0	0	0	0	0	0	199	0
201	0	0	201	0	0	0	0	0	201	0
0	0	0	0	0	0	0	0	0	203	0
0	0	204	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	205
0	0	0	0	0	0	0	0	206	0	0
0	0	0	0	0	0	0	0	0	0	207
0	0	209	0	0	0	0	0	0	418	0
0	0	0	0	0	0	0	0	211	0	0
212	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	214	428	0
0	0	0	0	0	0	0	0	0	0	216
0	0	0	0	0	0	0	0	217	0	0
0	218	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	219
0	0	0	220	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	222
0	0	0	0	0	223	0	0	0	0	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	226
0	0	0	0	0	0	0	0	0	0	227
0	0	0	0	0	0	0	0	0	0	457
0	0	0	0	0	0	0	0	0	0	230
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	233

sum of rank values (R_i)	**3019.5**	**3095**	**2132**	**2109**	**1843**	**1903**	**1687**	**1704.5**	**2954.5**	**2930**	**3883.5**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	1046227.1	202176	154393	164610	142298	145266	396776	390223	837865

$N_{i\ bg}$ = 65
N = 233
H = 63.89

Adjust H for ties:

T_i = 4E+06 sum of T1..T3

$H' = H/(1-(T_i/(N^3-N)))$
H' = 93.65
Chi-square = 15.51

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 15.51 which is less than H' =93.65.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	**MW-15**
Rbar (well x) =	95.9	83.8	86.5	84.4	85.2	134.3	133.2	215.8
avg Rbar (background) =	126.9	126.9	126.9	126.9	126.9	126.9	126.9	126.9
Dx =	-31.0	-43.1	-40.4	-42.5	-41.6	7.4	6.3	88.9
Cx =	38.7	38.7	38.7	40.2	40.2	38.7	38.7	41.8
Statistical Significance ?	No	No	No	No	No	No	No	**Yes**
If SSI, is current event above MCL?	-	-	-	-	-	-	-	No

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

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**740**	**10**
4/28/2003	**300**	**10**
10/30/2003	**640**	**5**
4/20/2004	**250**	**5**
10/21/2004	**430**	**5**
4/18/2005	**380**	**5**
10/13/2005	**290**	**5**
4/25/2006	**300**	**10**
10/20/2006	**89**	**5**
4/25/2007	**69**	**10**
10/31/2007	**123**	**5**
4/23/2008	**50.2**	**5**
10/20/2008	**25.9**	**5**
4/22/2009	NS	**5**
10/26/2009	**24.7**	**5**
4/22/2010	**9.2**	**5**
10/27/2010	**16**	**5**
4/29/2011	**11**	**5**
10/25/2011	**14.6**	**5**

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

	X_i values =
740	149693097
300	752743.2
640	80044416
250	68753.037
430	10788978
380	4997287.5
290	530785.17
300	752743.2
89	-1729440
69	-2745960
123	-636795.9
50.2	-4007052
25.9	-6141892
24.7	-6263421
9.2	-7980017
16	-7192783
11	-7766313
14.6	-7350420

X_{bar} = 209.03333
SD = 224.77151
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = 10878595
γ_1= 1.043721

Since the Coefficient of Skewness of 1.04 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 =
6.6066502	8.8740459
5.7037825	1.5912331
6.4614682	7.1350255
5.5214609	0.9560949
6.0637852	3.5638369
5.9401713	2.7667343
5.6698809	1.4565982
5.7037825	1.5912331
4.4886364	-0.000108
4.2341065	-0.027601
4.8121844	0.0209946
3.916015	-0.238675
3.254243	-2.107355
3.2068032	-2.35005
2.2192035	-12.44059
2.7725887	-5.486482
2.3978953	-9.778656

2.6810215	-6.386137

X_{bar} = 4.5363155
SD = 1.4899349
N = 18
$1/N\Sigma_i(X_I-X_{bar})^3$ = -0.603326
γ_1= 0.19874

Since the Coefficient of Skewness of 0.20 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	**740**	10	6.6066502
4/28/2003	**300**	10	5.7037825
10/30/2003	**640**	5	6.4614682
4/20/2004	**250**	5	5.5214609
10/21/2004	**430**	5	6.0637852
4/18/2005	**380**	5	5.9401713
10/13/2005	**290**	5	5.6698809
4/25/2006	**300**	10	5.7037825
10/20/2006	**89**	5	4.4886364
4/25/2007	**69**	10	4.2341065
10/31/2007	**123**	5	4.8121844
4/23/2008	**50.2**	5	3.916015
10/20/2008	**25.9**	5	3.254243
4/22/2009	NS	5	-
10/26/2009	**24.7**	5	3.2068032
4/22/2010	**9.2**	5	2.2192035
10/27/2010	**16**	5	2.7725887
4/29/2011	**11**	5	2.3978953
10/25/2011	**14.6**	5	2.6810215

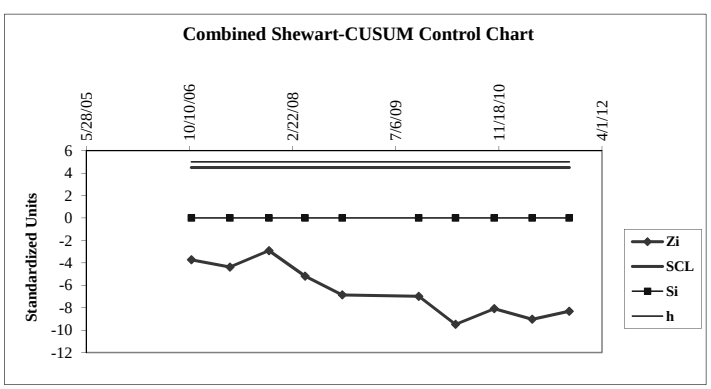
Compute the mean and standard deviation of the historical data:

5.9588727 = x_{mean} (Mean of N1-N8 historical data)
0.394346 = 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	4.4886364	-3.7282898	0	5	4.5
4/25/2007	4.2341065	-4.3737378	0	5	4.5
10/31/2007	4.8121844	-2.9078226	0	5	4.5
4/23/2008	3.916015	-5.1803681	0	5	4.5
10/20/2008	3.254243	-6.8585187	0	5	4.5
10/26/2009	3.2068032	-6.9788185	0	5	4.5
4/22/2010	2.2192035	-9.4832172	0	5	4.5
10/27/2010	2.7725887	-8.0799187	0	5	4.5
4/29/2011	2.3978953	-9.0300828	0	5	4.5
10/25/2011	2.6810215	-8.3121188	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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**15**	NS	NS	**17**	**12**	**8.3**	ND	**24**	**6.7**	**22**	NS	**5**
06/26/00	**15**	ND	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	**5**
09/18/00	NS	NS	NS	**8.8**	NT	NS	NS	NS	NT	NS	NS	**50**
04/09/01	**76**	**7.2**	NS	**9.6**	**5.3**	ND	ND	**18**	**28**	**6.1**	NS	**5**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**50**
04/15/02	**74**	ND	NS	ND	ND	ND	**6**	**9**	**44**	**68**	NS	**5**
09/26/02	**16**	**6.8**	**31**	**400**	ND	ND	ND	**27**	**40**	**78**	**430**	**5**
04/28/03	ND	ND	ND	**90**	ND	ND	ND	ND	ND	**26**	**70**	**5**
10/30/03	**19**	ND	NT	**6.9**	**6.9**	ND	ND	ND	**48**	ND	**190**	**5**
04/20/04	**20**	ND	ND	**30**	**7.3**	ND	ND	**12**	**5.3**	**49**	**110**	**5**
10/21/04	**12**	ND	ND	**13**	ND	ND	ND	ND	ND	**35**	**160**	**5**
04/18/05	**29**	**9.6**	**17**	**460**	ND	ND	**5.5**	**5.4**	ND	**59**	**170**	**5**
10/13/05	**29**	ND	ND	**160**	**6.8**	ND	ND	**6.1**	ND	**46**	**100**	**5**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**88**	**50**
10/20/06	**22**	ND	**8.3**	**25**	ND	ND	ND	ND	**13**	ND	**24**	**5**
04/25/07	ND	ND	ND	ND	ND	**330**	ND	ND	ND	ND	ND	**50**
10/31/07	**24**	ND	**8**	**8.4**	**13.8**	ND	**5.8**	**9.8**	ND	**20.2**	**36.2**	**5**
04/23/08	**7.3**	ND	**12.9**	**6.3**	**10.8**	**5.7**	ND	**11.3**	**5.3**	ND	**19**	**5**
10/20/08	**23**	ND	**21**	**11.1**	**10.7**	**7.5**	ND	**14**	ND	ND	**8.5**	**5**
04/22/09	**5.6**	**7.2**	**19.7**	**16.7**	**10.9**	**6**	**5.1**	**14**	**6**	ND	NS	**5**
10/26/09	**6.7**	ND	**5.2**	**6**	**18**	**7.5**	NS	NS	NS	**6**	**8.4**	**5**
04/22/10	**8.6**	**9.6**	**7.6**	ND	**6.2**	ND	NS	NS	ND	ND	ND	**5**
10/27/10	**7**	ND	ND	ND	**7.4**	ND	**21.5**	**19**	ND	ND	**7.5**	**5**
04/29/11	ND	ND	ND	ND	**10.5**	**8.6**	**19.5**	**15.2**	ND	ND	ND	**5**
10/25/11	**6.9**	ND	ND	**14.7**	**8.8**	**7.5**	**20.8**	**19.9**	ND	ND	ND	**5**
N_i	24	23	18	23	22	22	20	20	21	22	18	
sum of rank values (R_i)	3675.0	1748.0	1941.5	3318.0	2481.5	1902.0	1707.0	2659.0	2096.5	2693.0	3039.5	
avg rank value (Rbar)	153.1	76.0	107.9	144.3	112.8	86.5	85.4	133.0	99.8	122.4	168.9	

	Number of each rank value											Rank Value
rank value of NDs =	4	17	9	6	8	14	13	6	12	11	4	52.5
rank value of 5.1s =	0	0	0	0	0	0	1	0	0	0	0	105
rank value of 5.2s =	0	0	1	0	0	0	0	0	0	0	0	106
rank value of 5.3s =	0	0	0	0	1	0	0	0	2	0	0	108
rank value of 5.4s =	0	0	0	0	0	0	0	1	0	0	0	110
rank value of 5.5s =	0	0	0	0	0	0	1	0	0	0	0	111
rank value of 5.6s =	1	0	0	0	0	0	0	0	0	0	0	112
rank value of 5.7s =	0	0	0	0	0	1	0	0	0	0	0	113
rank value of 5.8s =	0	0	0	0	0	0	1	0	0	0	0	114
rank value of 6s =	0	0	0	1	0	1	0	0	1	1	0	116.5
rank value of 6.1s =	0	0	0	0	0	0	0	1	0	1	0	119.5
rank value of 6.2s =	0	0	0	0	1	0	1	0	0	0	0	121.5
rank value of 6.3s =	0	0	0	1	0	0	0	0	0	0	0	123
rank value of 6.7s =	1	0	0	0	0	0	0	0	1	0	0	124.5
rank value of 6.8s =	0	1	0	0	1	0	0	0	0	0	0	126.5
rank value of 6.9s =	1	0	0	1	1	0	0	0	0	0	0	129
rank value of 7s =	1	0	0	0	0	0	0	0	0	0	0	131
rank value of 7.2s =	0	2	0	0	0	0	0	0	0	0	0	132.5
rank value of 7.3s =	1	0	0	0	1	0	0	0	0	0	0	134.5
rank value of 7.4s =	0	0	0	0	1	0	0	0	0	0	0	136
rank value of 7.5s =	0	0	0	0	0	3	0	0	0	0	1	138.5
rank value of 7.6s =	0	0	1	0	0	0	0	0	0	0	0	141
rank value of 8s =	0	0	1	0	0	0	0	0	0	0	0	142
rank value of 8.3s =	0	0	1	0	0	1	0	0	0	0	0	143.5
rank value of 8.4s =	0	0	0	1	0	0	0	0	0	0	1	145.5
rank value of 8.5s =	0	0	0	0	0	0	0	0	0	0	1	147

rank value of 8.6s =	1	0	0	0	0	1	0	0	0	0	0	148.5
rank value of 8.8s =	0	0	0	1	1	0	0	0	0	0	0	150.5
rank value of 9.2s =	0	0	0	0	0	0	0	1	0	0	0	152
rank value of 9.6s =	0	2	0	1	0	0	0	0	0	0	0	154
rank value of 9.7s =	0	1	0	0	0	0	0	0	0	0	0	156
rank value of 9.8s =	0	0	0	0	0	0	0	1	0	0	0	157
rank value of 10.5s =	0	0	0	0	1	0	0	0	0	0	0	158
rank value of 10.7s =	0	0	0	0	1	0	0	0	0	0	0	159
rank value of 10.8s =	0	0	0	0	1	0	0	0	0	0	0	160
rank value of 10.9s =	0	0	0	0	1	0	0	0	0	0	0	161
rank value of 11.1s =	0	0	0	1	0	0	0	0	0	0	0	162
rank value of 11.3s =	0	0	0	0	0	0	0	1	0	0	0	163
rank value of 12s =	1	0	0	0	1	0	0	1	0	0	0	165
rank value of 12.9s =	0	0	1	0	0	0	0	0	0	0	0	167
rank value of 13s =	0	0	0	1	0	0	0	0	1	0	0	168.5
rank value of 13.8s =	0	0	0	0	1	0	0	0	0	0	0	170
rank value of 14s =	0	0	0	0	0	0	0	2	0	0	0	171.5
rank value of 14.7s =	0	0	0	1	0	0	0	0	0	0	0	173
rank value of 15s =	2	0	0	0	0	0	0	0	0	0	0	174.5
rank value of 15.2s =	0	0	0	0	0	0	0	1	0	0	0	176
rank value of 16s =	2	0	0	0	0	0	0	0	0	0	0	177.5
rank value of 16.7s =	0	0	0	1	0	0	0	0	0	0	0	179
rank value of 17s =	0	0	1	1	0	0	0	0	0	0	0	180.5
rank value of 18s =	0	0	0	0	1	0	0	1	0	0	0	182.5
rank value of 19s =	1	0	0	0	0	0	0	1	0	0	1	185
rank value of 19.5s =	0	0	0	0	0	0	1	0	0	0	0	187
rank value of 19.7s =	0	0	1	0	0	0	0	0	0	0	0	188
rank value of 19.9s =	0	0	0	0	0	0	0	1	0	0	0	189
rank value of 20s =	1	0	0	0	0	0	0	0	0	0	0	190
rank value of 20.2s =	0	0	0	0	0	0	0	0	0	1	0	191
rank value of 20.8s =	0	0	0	0	0	0	1	0	0	0	0	192
rank value of 21s =	0	0	1	0	0	0	0	0	0	0	0	193
rank value of 21.5s =	0	0	0	0	0	0	1	0	0	0	0	194
rank value of 22s =	1	0	0	0	0	0	0	0	0	1	0	195.5
rank value of 23s =	1	0	0	0	0	0	0	0	0	0	0	197
rank value of 24s =	1	0	0	0	0	0	0	1	0	0	1	199
rank value of 25s =	0	0	0	1	0	0	0	0	0	0	0	201
rank value of 26s =	0	0	0	0	0	0	0	0	0	1	0	202
rank value of 27s =	0	0	0	0	0	0	0	1	0	0	0	203
rank value of 28s =	0	0	0	0	0	0	0	0	1	0	0	204
rank value of 29s =	2	0	0	0	0	0	0	0	0	0	0	205.5
rank value of 30s =	0	0	0	1	0	0	0	0	0	0	0	207
rank value of 31s =	0	0	1	0	0	0	0	0	0	0	0	208
rank value of 35s =	0	0	0	0	0	0	0	0	0	1	0	209
rank value of 36.2s =	0	0	0	0	0	0	0	0	0	0	1	210
rank value of 40s =	0	0	0	0	0	0	0	0	1	0	0	211
rank value of 44s =	0	0	0	0	0	0	0	0	1	0	0	212
rank value of 46s =	0	0	0	0	0	0	0	0	0	1	0	213
rank value of 48s =	0	0	0	0	0	0	0	0	1	0	0	214
rank value of 49s =	0	0	0	0	0	0	0	0	0	1	0	215
rank value of 59s =	0	0	0	0	0	0	0	0	0	1	0	216
rank value of 68s =	0	0	0	0	0	0	0	0	0	1	0	217
rank value of 70s =	0	0	0	0	0	0	0	0	0	0	1	218
rank value of 74s =	1	0	0	0	0	0	0	0	0	0	0	219
rank value of 76s =	1	0	0	0	0	0	0	0	0	0	0	220
rank value of 78s =	0	0	0	0	0	0	0	0	0	1	0	221
rank value of 88s =	0	0	0	0	0	0	0	0	0	0	1	222
rank value of 90s =	0	0	0	1	0	0	0	0	0	0	0	223
rank value of 100s =	0	0	0	0	0	0	0	0	0	0	1	224
rank value of 110s =	0	0	0	0	0	0	0	0	0	0	1	225
rank value of 160s =	0	0	0	1	0	0	0	0	0	0	1	226.5
rank value of 170s =	0	0	0	0	0	0	0	0	0	0	1	228
rank value of 190s =	0	0	0	0	0	0	0	0	0	0	1	229
rank value of 330s =	0	0	0	0	0	1	0	0	0	0	0	230
rank value of 400s =	0	0	0	1	0	0	0	0	0	0	0	231
rank value of 430s =	0	0	0	0	0	0	0	0	0	0	1	232
rank value of 460s =	0	0	0	1	0	0	0	0	0	0	0	233
n =	**24**	**23**	**18**	**23**	**22**	**22**	**20**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

210	892.5	472.5	315	420	735	682.5	315	630	577.5	210
0	0	0	0	0	0	105	0	0	0	0

0	0	106	0	0	0	0	0	0	0	0
0	0	0	0	108	0	0	0	216	0	0
0	0	0	0	0	0	0	110	0	0	0
0	0	0	0	0	0	111	0	0	0	0
112	0	0	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	114	0	0	0	0
0	0	0	116.5	0	116.5	0	0	116.5	116.5	0
0	0	0	0	0	0	0	119.5	0	119.5	0
0	0	0	0	121.5	0	121.5	0	0	0	0
0	0	0	123	0	0	0	0	0	0	0
124.5	0	0	0	0	0	0	0	124.5	0	0
0	126.5	0	0	126.5	0	0	0	0	0	0
129	0	0	129	129	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0
0	265	0	0	0	0	0	0	0	0	0
134.5	0	0	0	134.5	0	0	0	0	0	0
0	0	0	0	136	0	0	0	0	0	0
0	0	0	0	0	415.5	0	0	0	0	138.5
0	0	141	0	0	0	0	0	0	0	0
0	0	142	0	0	0	0	0	0	0	0
0	0	143.5	0	0	143.5	0	0	0	0	0
0	0	0	145.5	0	0	0	0	0	0	145.5
0	0	0	0	0	0	0	0	0	0	147
148.5	0	0	0	0	148.5	0	0	0	0	0
0	0	0	150.5	150.5	0	0	0	0	0	0
0	0	0	0	0	0	0	152	0	0	0
0	308	0	154	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	157	0	0	0
0	0	0	0	158	0	0	0	0	0	0
0	0	0	0	159	0	0	0	0	0	0
0	0	0	0	160	0	0	0	0	0	0
0	0	0	0	161	0	0	0	0	0	0
0	0	0	162	0	0	0	0	0	0	0
0	0	0	0	0	0	0	163	0	0	0
165	0	0	0	165	0	0	165	0	0	0
0	0	167	0	0	0	0	0	0	0	0
0	0	0	168.5	0	0	0	0	168.5	0	0
0	0	0	0	170	0	0	0	0	0	0
0	0	0	0	0	0	0	343	0	0	0
0	0	0	173	0	0	0	0	0	0	0
349	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	176	0	0	0
355	0	0	0	0	0	0	0	0	0	0
0	0	0	179	0	0	0	0	0	0	0
0	0	180.5	180.5	0	0	0	0	0	0	0
0	0	0	0	182.5	0	0	182.5	0	0	0
185	0	0	0	0	0	0	185	0	0	185
0	0	0	0	0	0	187	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
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	192	0	0	0	0
0	0	193	0	0	0	0	0	0	0	0
0	0	0	0	0	0	194	0	0	0	0
195.5	0	0	0	0	0	0	0	0	195.5	0
197	0	0	0	0	0	0	0	0	0	0
199	0	0	0	0	0	0	199	0	0	199
0	0	0	201	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	203	0	0	0
0	0	0	0	0	0	0	0	204	0	0
411	0	0	0	0	0	0	0	0	0	0
0	0	0	207	0	0	0	0	0	0	0
0	0	208	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	209	0
0	0	0	0	0	0	0	0	0	0	210
0	0	0	0	0	0	0	0	211	0	0
0	0	0	0	0	0	0	0	212	0	0
0	0	0	0	0	0	0	0	0	213	0
0	0	0	0	0	0	0	0	214	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	217	0
	0	0	0	0	0	0	0	0	0	0	218
	219	0	0	0	0	0	0	0	0	0	0
	220	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	221	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	224
	0	0	0	0	0	0	0	0	0	0	225
	0	0	0	226.5	0	0	0	0	0	0	226.5
	0	0	0	0	0	0	0	0	0	0	228
	0	0	0	0	0	0	0	0	0	0	229
	0	0	0	0	0	230	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	0	232
	0	0	0	233	0	0	0	0	0	0	0
sum of rank values (R_i)	**3675**	**1748**	**1941.5**	**3318**	**2481.5**	**1902**	**1707**	**2659**	**2096.5**	**2693**	**3039.5**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	834397.9	478658	279902	164437	145692	353514	209301	329648	513253

$N_{i\,bg}$ = 65
N = 233
H = 26.25

Adjust H for ties:

T_i = 1E+06 sum of T1..T7

$H' = H/(1-(T_i/(N^3-N)))$
H' = 28.81
Chi-square = 15.51

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 15.51 which is less than H' =28.81.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	**MW-15**
Rbar (well x) =	144.3	112.8	86.5	85.4	133.0	99.8	122.4	168.9
avg Rbar (background) =	113.3	113.3	113.3	113.3	113.3	113.3	113.3	113.3
Dx =	31.0	-0.5	-26.8	-28.0	19.7	-13.5	9.1	55.6
Cx =	38.1	38.7	38.7	40.2	40.2	39.4	38.7	41.8
Statistical Significance ?	No	No	No	No	No	No	No	**Yes**
If SSI, is current event above MCL?	-	-	-	-	-	-	-	No

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

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**430**	**5**
4/28/2003	**70**	**5**
10/30/2003	**190**	**5**
4/20/2004	**110**	**5**
10/21/2004	**160**	**5**
4/18/2005	**170**	**5**
10/13/2005	**100**	**5**
4/25/2006	**88**	**50**
10/20/2006	**24**	**5**
4/25/2007	ND	**50**
10/31/2007	**36.2**	**5**
4/23/2008	**19**	**5**
10/20/2008	**8.5**	**5**
4/22/2009	NS	**5**
10/26/2009	**8.4**	**5**
4/22/2010	ND	**5**
10/27/2010	**7.5**	**5**
4/29/2011	ND	**5**
10/25/2011	ND	**5**

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

	X_i values =
430	42587769
70	-1253.889
190	1302767
110	24939.744
160	497106.79
170	710130.19
100	7096.336
88	375.846
24	-183089.2
25	-173585.5
36.2	-88617.12
19	-235838.1
8.5	-377671.8
8.4	-379241.4
2.5	-479742.2
7.5	-393564.3
2.5	-479742.2
2.5	-479742.2

X_{bar} = 80.783333
SD = 107.33872
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = 2325449.8
γ_1 = 2.0486754

Since the Coefficient of Skewness of 2.05 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	18.53058
4.2484952	0.5737583
5.2470241	6.12328
4.7004804	2.1116254
5.0751738	4.5547425
5.1357984	5.0729848
4.6051702	1.6751008
4.4773368	1.1903228
3.1780538	-0.013736
3.2188758	-0.007841
3.5890591	0.0050457
2.944439	-0.105893
2.1400662	-2.084772
2.1282317	-2.14325
0.9162907	-15.64848
2.014903	-2.759549
0.9162907	-15.64848
0.9162907	-15.64848

X_{bar} = 3.4175425
SD = 1.6323981
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = -0.790169
γ_1 = 0.1979144

Since the Coefficient of Skewness of 0.20 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**430**	5	6.0637852
4/28/2003	**70**	5	4.2484952
10/30/2003	**190**	5	5.2470241
4/20/2004	**110**	5	4.7004804
10/21/2004	**160**	5	5.0751738
4/18/2005	**170**	5	5.1357984
10/13/2005	**100**	5	4.6051702
4/25/2006	**88**	50	4.4773368
10/20/2006	**24**	5	3.1780538
4/25/2007	ND	50	3.2188758
10/31/2007	**36.2**	5	3.5890591
4/23/2008	**19**	5	2.944439
10/20/2008	**8.5**	5	2.1400662
4/22/2009	NS	5	-
10/26/2009	**8.4**	5	2.1282317
4/22/2010	ND	5	0.9162907
10/27/2010	**7.5**	5	2.014903
4/29/2011	ND	5	0.9162907
10/25/2011	ND	5	0.9162907

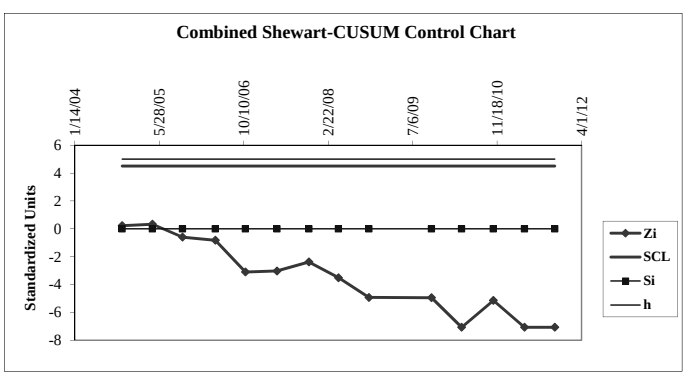
Compute the mean and standard deviation of the historical data:

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

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

Date	x_i	Z_i	S_i	h	SCL
			0		
10/21/2004	5.0751738	0.2297995	0	5	4.5
4/18/2005	5.1357984	0.3361341	0	5	4.5
10/13/2005	4.6051702	-0.594579	0	5	4.5
4/25/2006	4.4773368	-0.8187966	0	5	4.5
10/20/2006	3.1780538	-3.0977172	0	5	4.5
4/25/2007	3.2188758	-3.0261161	0	5	4.5
10/31/2007	3.5890591	-2.3768208	0	5	4.5
4/23/2008	2.944439	-3.5074738	0	5	4.5
10/20/2008	2.1400662	-4.9183303	0	5	4.5
10/26/2009	2.1282317	-4.9390877	0	5	4.5
4/22/2010	0.9162907	-7.0648119	0	5	4.5
10/27/2010	2.014903	-5.1378643	0	5	4.5
4/29/2011	0.9162907	-7.0648119	0	5	4.5
10/25/2011	0.9162907	-7.0648119	0	5	4.5

Plot Z_i and S_i versus time:



Compare the Z_i and S_i values to their respective control limits of SCL and h.

The limits were not exceeded and do not indicate statistically significant evidence of contamination at the site.

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	NS	**20**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**20**
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	**20**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
04/15/02	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	**20**
09/26/02	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	**20**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/20/04	ND	ND	ND	ND	ND	**5**	ND	ND	ND	ND	ND	**5**
10/21/04	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	**5**
10/13/05	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	**20**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/07	**12**	ND	ND	ND	ND	**460**	ND	ND	ND	ND	**18**	**10**
10/31/07	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	**10**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**10**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	**10**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**10**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/25/11	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	-
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	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-
04/15/02	10	10	-	10	10	10	10	10	10	10	-
09/26/02	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
10/30/03	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
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
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
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
04/25/06	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
04/25/07	12	5	5	5	5	460	5	5	5	5	18
10/31/07	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
10/20/08	5	5	5	5	5	5	5	5	5	5	5
04/22/09	5	5	5	5	5	5	5	5	5	5	-
10/26/09	5	5	5	5	5	5	-	-	-	5	5
04/22/10	5	5	5	5	5	5	-	-	5	5	5
10/27/10	5	5	5	5	5	5	5	5	5	5	5
04/29/11	5	5	5	5	5	5	5	5	5	5	5
10/25/11				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' = 23.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 62$
$T_{n1} = 372$

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).

$k = 8$
$n = 62$
$T_{n1} = 372$
$t\,[61,.01] = 2.3895$
$c = 0.1290$
$T_{n2} = 40$
$T^*_k = 66.0$

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 J11-1957-27

Compound: **Total Silver**
MCL (µg/l): 17.5
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**3.7**	NS	NS	ND	ND	ND	**6.9**	ND	ND	ND	NS	**2**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**10**
04/09/01	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	**2**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
04/15/02	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	**2**
09/26/02	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	**2**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	**2**
04/20/04	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	**2**
04/18/05	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	**2**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/25/07	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	**5**
04/23/08	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	**5**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**5**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	**5**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**5**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/25/11	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	-
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	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-
04/15/02	1	1	-	1	1	1	1	1	1	1	-
09/26/02	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
10/30/03	1	1	-	1	1	1	1	1	1	1	1
04/20/04	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
04/18/05	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
04/25/06	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
04/25/07	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
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
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
04/22/09	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-
10/26/09	2.5	2.5	2.5	2.5	2.5	2.5	-	-	-	2.5	2.5
04/22/10	2.5	2.5	2.5	2.5	2.5	2.5	-	-	2.5	2.5	2.5
10/27/10	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/29/11	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
10/25/11				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' = 23.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 62$
$T_{n1} = 131.1$

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).

$k = 8$
$n = 62$
$T_{n1} = 131.1$
$t\,[61,.01] = 2.3895$
$c = 0.1290$
$T_{n2} = 20$
$T^*_k = 27.7$

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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**2**	NS	NS	ND	**3**	**2**	**4**	ND	**2**	**5**	NS	**2**
06/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
07/26/00	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**20**
04/09/01	**40**	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	**2**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20**
04/15/02	**40**	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	**2**
09/26/02	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	**15**	**1**
10/30/03	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/20/04	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	**10**
04/18/05	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	**10**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/07	ND	ND	ND	ND	ND	**35**	ND	ND	ND	ND	ND	**5.5**
10/31/07	**11.6**	ND	ND	ND	ND	ND	ND	ND	ND	**9.5**	ND	**5.5**
04/23/08	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	**5.4**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**5.4**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	**5.4**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**5.4**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.4**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5.4**
10/25/11	ND	ND	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	5	-
06/26/00	1	1	-	-	-	-	-	-	-	-	-
07/26/00	1	1	-	-	-	-	-	-	-	-	-
09/18/00	-	-	-	-	-	-	-	-	-	-	-
04/09/01	40	1	-	1	1	1	1	1	1	1	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-
04/15/02	40	1	-	1	1	1	1	1	1	1	-
09/26/02	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	15
10/30/03	5	5	-	5	5	5	5	5	5	5	5
04/20/04	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
04/18/05	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
04/25/06	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
04/25/07	2.75	2.75	2.75	2.75	2.75	35	2.75	2.75	2.75	2.75	2.75
10/31/07	11.6	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	9.5	2.75
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
10/20/08	7.2	2.7	2.7	2.7	2.7	2.7	2.7	6.1	2.7	2.7	2.7
04/22/09	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	-
10/26/09	2.7	2.7	2.7	2.7	2.7	2.7	-	-	-	2.7	2.7
04/22/10	2.7	2.7	2.7	2.7	2.7	2.7	-	-	2.7	2.7	2.7
10/27/10	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
04/29/11	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
10/25/11				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' = 23.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 62$
$T_{n1} = 296.2$

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).

$k = 8$
$n = 62$
$T_{n1} = 296.2$
$t\,[61,.01] = 2.3895$
$c = 0.1290$
$T_{n2} = 21.6$
$T^*_k = 54.3$

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 J11-1957-27

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

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**17**	NS	NS	**19**	**32**	**21**	ND	**29**	**8.9**	**78**	NS	**5**
06/26/00	**40**	**6.3**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
07/26/00	**45**	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**40**
04/09/01	**250**	**1.4**	NS	**13**	**19**	**9.3**	ND	**24**	**41**	**230**	NS	**5**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**40**
04/15/02	**240**	ND	NS	ND	ND	**11**	**21**	**14**	**69**	**260**	NS	**5**
09/26/02	**58**	**16**	**44**	**640**	ND	ND	ND	**42**	**50**	**310**	**1000**	**5**
04/28/03	**89**	ND	**9.6**	**170**	**6.8**	**6.8**	ND	ND	**37**	**230**	**130**	**5**
10/30/03	**54**	ND	NT	**6.6**	**16**	ND	ND	ND	**92**	**14**	**200**	**5**
04/20/04	**55**	ND	ND	**45**	**25**	ND	ND	**13**	**5.1**	**240**	**88**	**5**
10/21/04	**41**	ND	ND	**18**	ND	ND	ND	ND	ND	**160**	**210**	**5**
04/18/05	**85**	ND	ND	**680**	**5.4**	ND	ND	ND	ND	**240**	**110**	**5**
10/13/05	**82**	ND	ND	**210**	**8.9**	ND	ND	ND	ND	**170**	**82**	**5**
04/25/06	**110**	ND	ND	ND	ND	ND	ND	ND	ND	**120**	**85**	**40**
10/20/06	**79**	ND	ND	**28**	ND	ND	ND	ND	**23**	ND	**30**	**5**
04/25/07	**43**	ND	ND	ND	ND	**300**	ND	ND	ND	ND	**26**	**25**
10/31/07	**89**	ND	**8.8**	**14.7**	**20**	ND	ND	ND	**8.6**	**103**	**48.2**	**5**
04/23/08	**26.1**	ND	**11.4**	**9.7**	**10.1**	ND	ND	**5.1**	**9.7**	**10**	**23.1**	**5**
10/20/08	**79**	ND	**15.1**	**15.8**	ND	ND	ND	ND	**5.4**	ND	**14.8**	**5**
04/22/09	**16**	ND	**32.7**	**19.8**	**7.7**	ND	ND	ND	**13.3**	ND	NS	**5**
10/26/09	**17.9**	ND	ND	**5.3**	**33.6**	ND	NS	NS	NS	**12.2**	**11.9**	**5**
04/22/10	**27.9**	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**5**
10/27/10	**17.4**	ND	ND	**6.9**	ND	ND	**14.2**	**7.1**	ND	ND	**5.9**	**5**
04/29/11	**15.8**	ND	**5.1**	ND	ND	ND	ND	ND	ND	ND	**5.5**	**5**
10/25/11	**25.6**	ND	ND	**23**	ND	ND	**15.1**	ND	ND	**9.7**	**6.3**	**5**
N_i	24	23	18	22	22	22	20	20	21	22	18	
sum of rank values (R_i)	4543.0	1510.5	1659.5	3156.5	2280.0	1745.0	1421.0	1800.0	2419.0	3357.0	3136.5	
avg rank value (Rbar)	189.3	65.7	92.2	143.5	103.6	79.3	71.1	90.0	115.2	152.6	174.3	

	Number of each rank value											Rank Value
rank value of NDs =	0	20	11	5	11	17	17	13	9	7	1	56
rank value of 1.4s =	0	1	0	0	0	0	0	0	0	0	0	112
rank value of 5.1s =	0	0	1	0	0	0	0	1	1	0	0	114
rank value of 5.3s =	0	0	0	1	0	0	0	0	0	0	0	116
rank value of 5.4s =	0	0	0	0	1	0	0	0	1	0	0	117.5
rank value of 5.5s =	0	0	0	0	0	0	0	0	0	0	1	119
rank value of 5.9s =	0	0	0	0	0	0	0	0	0	0	1	120
rank value of 6.3s =	0	1	0	0	0	0	0	0	0	0	1	121.5
rank value of 6.6s =	0	0	0	1	0	0	0	0	0	0	0	123
rank value of 6.8s =	0	0	0	0	1	1	0	0	0	0	0	124.5
rank value of 6.9s =	0	0	0	1	0	0	0	0	0	0	0	126
rank value of 7.1s =	0	0	0	0	0	0	0	1	0	0	0	127
rank value of 7.7s =	0	0	0	0	1	0	0	0	0	0	0	128
rank value of 8.6s =	0	0	0	0	0	0	0	0	1	0	0	129
rank value of 8.8s =	0	0	1	0	0	0	0	0	0	0	0	130
rank value of 8.9s =	0	0	0	0	1	0	0	0	1	0	0	131.5
rank value of 9.3s =	0	0	0	0	0	1	0	0	0	0	0	133
rank value of 9.6s =	0	0	1	0	0	0	0	0	0	0	0	134
rank value of 9.7s =	0	0	0	1	0	0	0	0	1	1	0	136
rank value of 10s =	0	0	0	0	0	0	0	0	0	1	0	138
rank value of 10.1s =	0	0	0	0	1	0	0	0	0	0	0	139
rank value of 11s =	0	0	0	0	0	1	0	0	0	0	0	140
rank value of 11.4s =	0	0	1	0	0	0	0	0	0	0	0	141
rank value of 11.9s =	0	0	0	0	0	0	0	0	0	0	1	142
rank value of 12.2s =	0	0	0	0	0	0	0	0	0	1	0	143
rank value of 13s =	0	0	0	1	0	0	0	1	0	0	0	144.5

rank value of 13.3s =	0	0	0	0	0	0	0	0	1	0	0	146
rank value of 14s =	0	0	0	0	0	0	0	1	0	1	0	147.5
rank value of 14.2s =	0	0	0	0	0	0	1	0	0	0	0	149
rank value of 14.7s =	0	0	0	1	0	0	0	0	0	0	0	150
rank value of 14.8s =	0	0	0	0	0	0	0	0	0	0	1	151
rank value of 15.1s =	0	0	1	0	0	0	1	0	0	0	0	152.5
rank value of 15.8s =	1	0	0	1	0	0	0	0	0	0	0	154.5
rank value of 16s =	1	1	0	0	1	0	0	0	0	0	0	157
rank value of 17s =	1	0	0	0	0	0	0	0	0	0	0	159
rank value of 17.4s =	1	0	0	0	0	0	0	0	0	0	0	160
rank value of 17.9s =	1	0	0	0	0	0	0	0	0	0	0	161
rank value of 18s =	0	0	0	1	0	0	0	0	0	0	0	162
rank value of 19s =	0	0	0	1	1	0	0	0	0	0	0	163.5
rank value of 19.8s =	0	0	0	1	0	0	0	0	0	0	0	165
rank value of 20s =	0	0	0	0	1	0	0	0	0	0	0	166
rank value of 21s =	0	0	0	0	0	1	1	0	0	0	0	167.5
rank value of 23s =	0	0	0	1	0	0	0	0	1	0	0	169.5
rank value of 23.1s =	0	0	0	0	0	0	0	0	0	0	1	171
rank value of 24s =	0	0	0	0	0	0	0	1	0	0	0	172
rank value of 25s =	0	0	0	0	1	0	0	0	0	0	0	173
rank value of 25.6s =	1	0	0	0	0	0	0	0	0	0	0	174
rank value of 26s =	0	0	0	0	0	0	0	0	0	0	1	175
rank value of 26.1s =	1	0	0	0	0	0	0	0	0	0	0	176
rank value of 27.9s =	1	0	0	0	0	0	0	0	0	0	0	177
rank value of 28s =	0	0	0	1	0	0	0	0	0	0	0	178
rank value of 29s =	0	0	0	0	0	0	0	1	0	0	0	179
rank value of 30s =	0	0	0	0	0	0	0	0	0	0	1	180
rank value of 32s =	0	0	0	0	1	0	0	0	0	0	0	181
rank value of 32.7s =	0	0	1	0	0	0	0	0	0	0	0	182
rank value of 33.6s =	0	0	0	0	1	0	0	0	0	0	0	183
rank value of 37s =	0	0	0	0	0	0	0	0	1	0	0	184
rank value of 40s =	1	0	0	0	0	0	0	0	0	0	0	185
rank value of 41s =	1	0	0	0	0	0	0	0	1	0	0	186.5
rank value of 42s =	0	0	0	0	0	0	0	1	0	0	0	188
rank value of 43s =	1	0	0	0	0	0	0	0	0	0	0	189
rank value of 44s =	0	0	1	0	0	0	0	0	0	0	0	190
rank value of 45s =	1	0	0	1	0	0	0	0	0	0	0	191.5
rank value of 48.2s =	0	0	0	0	0	0	0	0	0	0	1	193
rank value of 50s =	0	0	0	0	0	0	0	0	1	0	0	194
rank value of 54s =	1	0	0	0	0	0	0	0	0	0	0	195
rank value of 55s =	1	0	0	0	0	0	0	0	0	0	0	196
rank value of 58s =	1	0	0	0	0	0	0	0	0	0	0	197
rank value of 69s =	0	0	0	0	0	0	0	0	1	0	0	198
rank value of 78s =	0	0	0	0	0	0	0	0	0	1	0	199
rank value of 79s =	2	0	0	0	0	0	0	0	0	0	0	200.5
rank value of 82s =	1	0	0	0	0	0	0	0	0	0	1	202.5
rank value of 85s =	1	0	0	0	0	0	0	0	0	0	1	204.5
rank value of 88s =	0	0	0	0	0	0	0	0	0	0	1	206
rank value of 89s =	2	0	0	0	0	0	0	0	0	0	0	207.5
rank value of 92s =	0	0	0	0	0	0	0	0	1	0	0	209
rank value of 103s =	0	0	0	0	0	0	0	0	0	1	0	210
rank value of 110s =	1	0	0	0	0	0	0	0	0	0	1	211.5
rank value of 120s =	0	0	0	0	0	0	0	0	0	1	0	213
rank value of 130s =	0	0	0	0	0	0	0	0	0	0	1	214
rank value of 160s =	0	0	0	0	0	0	0	0	0	1	0	215
rank value of 170s =	0	0	0	1	0	0	0	0	0	1	0	216.5
rank value of 200s =	0	0	0	0	0	0	0	0	0	0	1	218
rank value of 210s =	0	0	0	1	0	0	0	0	0	0	1	219.5
rank value of 230s =	0	0	0	0	0	0	0	0	0	2	0	221.5
rank value of 240s =	1	0	0	0	0	0	0	0	0	2	0	224
rank value of 250s =	1	0	0	0	0	0	0	0	0	0	0	226
rank value of 260s =	0	0	0	0	0	0	0	0	0	1	0	227
rank value of 300s =	0	0	0	0	0	1	0	0	0	0	0	228
rank value of 310s =	0	0	0	0	0	0	0	0	0	1	0	229
rank value of 640s =	0	0	0	1	0	0	0	0	0	0	0	230
rank value of 680s =	0	0	0	1	0	0	0	0	0	0	0	231
rank value of 1000s =	0	0	0	0	0	0	0	0	0	0	1	232
n =	**24**	**23**	**18**	**22**	**22**	**22**	**20**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

0	1120	616	280	616	952	952	728	504	392	56
0	112	0	0	0	0	0	0	0	0	0

0	0	114	0	0	0	0	114	114	0	0
0	0	0	116	0	0	0	0	0	0	0
0	0	0	0	117.5	0	0	0	117.5	0	0
0	0	0	0	0	0	0	0	0	0	119
0	0	0	0	0	0	0	0	0	0	120
0	121.5	0	0	0	0	0	0	0	0	121.5
0	0	0	123	0	0	0	0	0	0	0
0	0	0	0	124.5	124.5	0	0	0	0	0
0	0	0	126	0	0	0	0	0	0	0
0	0	0	0	0	0	0	127	0	0	0
0	0	0	0	128	0	0	0	0	0	0
0	0	0	0	0	0	0	0	129	0	0
0	0	130	0	0	0	0	0	0	0	0
0	0	0	0	131.5	0	0	0	131.5	0	0
0	0	0	0	0	133	0	0	0	0	0
0	0	134	0	0	0	0	0	0	0	0
0	0	0	136	0	0	0	0	136	136	0
0	0	0	0	0	0	0	0	0	138	0
0	0	0	0	139	0	0	0	0	0	0
0	0	0	0	0	140	0	0	0	0	0
0	0	141	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	142
0	0	0	0	0	0	0	0	0	143	0
0	0	0	144.5	0	0	0	144.5	0	0	0
0	0	0	0	0	0	0	0	146	0	0
0	0	0	0	0	0	0	147.5	0	147.5	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	0	0	0	0	151
0	0	152.5	0	0	0	152.5	0	0	0	0
154.5	0	0	154.5	0	0	0	0	0	0	0
157	157	0	0	157	0	0	0	0	0	0
159	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0	0	0	0
0	0	0	162	0	0	0	0	0	0	0
0	0	0	163.5	163.5	0	0	0	0	0	0
0	0	0	165	0	0	0	0	0	0	0
0	0	0	0	166	0	0	0	0	0	0
0	0	0	0	0	167.5	167.5	0	0	0	0
0	0	0	169.5	0	0	0	0	169.5	0	0
0	0	0	0	0	0	0	0	0	0	171
0	0	0	0	0	0	0	172	0	0	0
0	0	0	0	173	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	175
176	0	0	0	0	0	0	0	0	0	0
177	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	179	0	0	0
0	0	0	0	0	0	0	0	0	0	180
0	0	0	0	181	0	0	0	0	0	0
0	0	182	0	0	0	0	0	0	0	0
0	0	0	0	183	0	0	0	0	0	0
0	0	0	0	0	0	0	0	184	0	0
185	0	0	0	0	0	0	0	0	0	0
186.5	0	0	0	0	0	0	0	186.5	0	0
0	0	0	0	0	0	0	188	0	0	0
189	0	0	0	0	0	0	0	0	0	0
0	0	190	0	0	0	0	0	0	0	0
191.5	0	0	191.5	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	193
0	0	0	0	0	0	0	0	194	0	0
195	0	0	0	0	0	0	0	0	0	0
196	0	0	0	0	0	0	0	0	0	0
197	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	198	0	0
0	0	0	0	0	0	0	0	0	199	0
401	0	0	0	0	0	0	0	0	0	0
202.5	0	0	0	0	0	0	0	0	0	202.5
204.5	0	0	0	0	0	0	0	0	0	204.5
0	0	0	0	0	0	0	0	0	0	206
415	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	210	0
	211.5	0	0	0	0	0	0	0	0	0	211.5
	0	0	0	0	0	0	0	0	0	213	0
	0	0	0	0	0	0	0	0	0	0	214
	0	0	0	0	0	0	0	0	0	215	0
	0	0	0	216.5	0	0	0	0	0	216.5	0
	0	0	0	0	0	0	0	0	0	0	218
	0	0	0	219.5	0	0	0	0	0	0	219.5
	0	0	0	0	0	0	0	0	0	443	0
	224	0	0	0	0	0	0	0	0	448	0
	226	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	227	0
	0	0	0	0	0	228	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	229	0
	0	0	0	230	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	0	232
sum of rank values (R_i)	**4543**	**1510.5**	**1659.5**	**3156.5**	**2280**	**1745**	**1421**	**1800**	**2419**	**3357**	**3136.5**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	915236.4	452886	236291	138410	100962	162000	278646	512248	546535

$N_{i\,bg}$ = 65
N = 232
H = 43.17

Adjust H for ties:

T_i = 1E+06 sum of T1..T5

$H' = H/(1-(T_i/(N^3-N)))$
H' = 48.48
Chi-square = 15.51

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 15.51 which is less than H' =48.48.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	**MW-15**
Rbar (well x) =	143.5	103.6	79.3	71.1	90.0	115.2	152.6	174.3
avg Rbar (background) =	118.7	118.7	118.7	118.7	118.7	118.7	118.7	118.7
Dx =	24.8	-15.0	-39.3	-47.6	-28.7	-3.5	33.9	55.6
Cx =	38.6	38.6	38.6	40.0	40.0	39.3	38.6	41.7
Statistical Significance ?	No	No	No	No	No	No	No	**Yes**
If SSI, is current event above MCL?	-	-	-	-	-	-	-	NE

Compare each difference (Dx) with the corresponding critical value (Cx).
The Dx value for the above indicated wells do exceed the corresponding Cx value.
Therefore, we conclude that the concentration of Total 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 J11-1957-27

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

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**1000**	**5**
4/28/2003	**130**	**5**
10/30/2003	**200**	**5**
4/20/2004	**88**	**5**
10/21/2004	**210**	**5**
4/18/2005	**110**	**5**
10/13/2005	**82**	**5**
4/25/2006	**85**	**40**
10/20/2006	**30**	**5**
4/25/2007	**26**	**25**
10/31/2007	**48.2**	**5**
4/23/2008	**23.1**	**5**
10/20/2008	**14.8**	**5**
4/22/2009	NS	**5**
10/26/2009	**11.9**	**5**
4/22/2010	ND	**5**
10/27/2010	**5.9**	**5**
4/29/2011	**5.5**	**5**
10/25/2011	**6.3**	**5**

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

	X_i values =
1000	691953873
130	3041.622
200	603113.15
88	-20822.09
210	843610.98
110	-167.3854
82	-37632.8
85	-28403.64
30	-625270.1
26	-717184.4
48.2	-304972.2
23.1	-789173.7
14.8	-1021485
11.9	-1112292
2.5	-1443323
5.9	-1316933
5.5	-1331403
6.3	-1302568

X_{bar} =	115.51111
SD =	230.029
N =	18
$1/N\Sigma_i(X_i-X_{bar})^3$ =	37964000
γ_1=	3.3982832

Since the Coefficient of Skewness of 3.40 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	34.875863
4.8675345	1.8471651
5.2983174	4.5557751
4.4773368	0.5859056
5.3471075	4.9699791
4.7004804	1.1907449
4.4067192	0.4497341
4.4426513	0.5160242
3.4011974	-0.013714
3.2580965	-0.055946
3.875359	0.0129445
3.1398326	-0.125547
2.6946272	-0.846412
2.4765384	-1.57719
0.9162907	-20.21857
1.7749524	-6.493241
1.7047481	-7.254208

1.8405496	-5.832108

X_{bar} = 3.6405608
SD = 1.5632391
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = 0.3659554
γ_1= 0.1043728

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	**1000**	5	6.9077553
4/28/2003	**130**	5	4.8675345
10/30/2003	**200**	5	5.2983174
4/20/2004	**88**	5	4.4773368
10/21/2004	**210**	5	5.3471075
4/18/2005	**110**	5	4.7004804
10/13/2005	**82**	5	4.4067192
4/25/2006	**85**	40	4.4426513
10/20/2006	**30**	5	3.4011974
4/25/2007	**26**	25	3.2580965
10/31/2007	**48.2**	5	3.875359
4/23/2008	**23.1**	5	3.1398326
10/20/2008	**14.8**	5	2.6946272
4/22/2009	NS	5	-
10/26/2009	**11.9**	5	2.4765384
4/22/2010	ND	5	0.9162907
10/27/2010	**5.9**	5	1.7749524
4/29/2011	**5.5**	5	1.7047481
10/25/2011	**6.3**	5	1.8405496

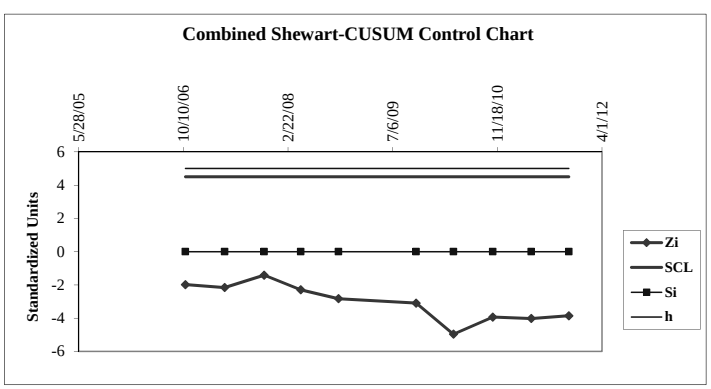
Compute the mean and standard deviation of the historical data:

5.0559878 = x_{mean} (Mean of N1-N8 historical data)
0.8338367 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

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

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	3.4011974	-1.9845497	0	5	4.5
4/25/2007	3.2580965	-2.1561671	0	5	4.5
10/31/2007	3.875359	-1.4158992	0	5	4.5
4/23/2008	3.1398326	-2.2979981	0	5	4.5
10/20/2008	2.6946272	-2.8319221	0	5	4.5
10/26/2009	2.4765384	-3.0934706	0	5	4.5
4/22/2010	0.9162907	-4.9646376	0	5	4.5
10/27/2010	1.7749524	-3.9348656	0	5	4.5
4/29/2011	1.7047481	-4.0190599	0	5	4.5
10/25/2011	1.8405496	-3.8561964	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 J11-1957-27

Compound: **Total Zinc**
NC MCL (µg/l): 1050
Method: Kruskal-Wallis
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	**150**	NS	NS	**35**	**48**	**36**	**12**	**43**	**28**	**68**	NS	**10**
06/26/00	**37**	**12**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
07/26/00	**65**	**66**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**50**
04/09/01	**230**	**130**	NS	**12**	**24**	**18**	**17**	**33**	**75**	**200**	NS	**10**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**50**
04/15/02	**230**	**16**	NS	ND	ND	**13**	**33**	**38**	**120**	**230**	NS	**10**
09/26/02	**57**	**120**	**110**	**580**	ND	**20**	ND	**56**	**250**	**280**	**4800**	**10**
04/28/03	**86**	**14**	**31**	**160**	**16**	ND	ND	ND	**81**	**190**	**800**	**10**
10/30/03	**55**	**22**	NT	**17**	**26**	**10**	ND	ND	**140**	**26**	**1800**	**10**
04/20/04	**55**	**10**	ND	**44**	**30**	**11**	**14**	**19**	**23**	**220**	**770**	**10**
10/21/04	**29**	ND	ND	**17**	ND	**14**	ND	**12**	**15**	**70**	**1200**	**10**
04/18/05	**83**	ND	ND	**780**	ND	**30**	**13**	**10**	ND	**240**	**1200**	**10**
10/13/05	**92**	**13**	**12**	**230**	**19**	**25**	ND	ND	**14**	**170**	**800**	**10**
04/25/06	**130**	ND	**88**	ND	ND	ND	ND	ND	**110**	**120**	**780**	**50**
10/20/06	**74**	ND	**20**	**37**	ND	ND	ND	ND	**55**	ND	**200**	**10**
04/25/07	**55**	**21**	**30**	**30**	**22**	**830**	**22**	**15**	**10**	**12**	**200**	**10**
10/31/07	**86**	ND	**66.2**	**14**	**37.4**	**33.3**	**12**	ND	**11.6**	**91.1**	**336**	**10**
04/23/08	**27.3**	ND	**50.3**	**12.2**	**24.4**	**36.9**	ND	**10.3**	**17.5**	**38.8**	**138**	**10**
10/20/08	**66.5**	**19.9**	**59.2**	**15.3**	**10.6**	**29.1**	ND	**12.4**	ND	**17.4**	**71.5**	**10**
04/22/09	**23.1**	**43.5**	**99.9**	**25.3**	**17.9**	**17.6**	**10.5**	ND	**35.2**	ND	NS	**10**
10/26/09	**19.6**	ND	**14.8**	ND	**37.8**	ND	NS	NS	NS	ND	**63.8**	**10**
04/22/10	**22.2**	**14.2**	ND	ND	ND	ND	NS	NS	ND	ND	**24.6**	**10**
10/27/10	**19.1**	ND	**12.3**	**15**	ND	ND	**32.4**	**16.3**	ND	ND	**60.7**	**10**
04/29/11	**25.7**	ND	**21.9**	ND	**11.8**	**23.9**	**13.7**	ND	ND	ND	**42.9**	**10**
10/25/11	**34.5**	ND	**11.6**	**23.7**	**12.8**	**10.1**	**32.5**	ND	ND	**17.7**	**49.9**	**10**
N_i	24	23	18	22	22	22	20	20	21	22	18	
sum of rank values (R_i)	4065.5	1956.5	2110.0	2584.0	1975.0	2164.5	1464.5	1556.5	2425.0	3048.0	3678.5	
avg rank value (Rbar)	169.4	85.1	117.2	117.5	89.8	98.4	73.2	77.8	115.5	138.5	204.4	

	Number of each rank value											Rank Value
rank value of NDs =	0	10	4	5	8	6	9	9	6	6	0	32
rank value of 10s =	0	1	0	0	0	1	0	1	1	0	0	65.5
rank value of 10.1s =	0	0	0	0	0	1	0	0	0	0	0	68
rank value of 10.3s =	0	0	0	0	0	0	0	1	0	0	0	69
rank value of 10.5s =	0	0	0	0	0	0	1	0	0	0	0	70
rank value of 10.6s =	0	0	0	0	1	0	0	0	0	0	0	71
rank value of 11s =	0	0	0	0	0	1	0	0	0	0	0	72
rank value of 11.6s =	0	0	1	0	0	0	0	0	1	0	0	73.5
rank value of 11.8s =	0	0	0	0	1	0	0	0	0	0	0	75
rank value of 12s =	0	1	1	1	0	0	2	1	0	1	0	79
rank value of 12.2s =	0	0	0	1	0	0	0	0	0	0	0	83
rank value of 12.3s =	0	0	1	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	85
rank value of 12.8s =	0	0	0	0	1	0	0	0	0	0	0	86
rank value of 13s =	0	1	0	0	0	1	1	0	0	0	0	88
rank value of 13.7s =	0	0	0	0	0	0	1	0	0	0	0	90
rank value of 14s =	0	1	0	1	0	1	1	0	1	0	0	93
rank value of 14.2s =	0	1	0	0	0	0	0	0	0	0	0	96
rank value of 14.8s =	0	0	1	0	0	0	0	0	0	0	0	97
rank value of 15s =	0	0	0	1	0	0	0	1	1	0	0	99
rank value of 15.3s =	0	0	0	1	0	0	0	0	0	0	0	101
rank value of 16s =	0	1	0	0	1	0	0	0	0	0	0	102.5
rank value of 16.3s =	0	0	0	0	0	0	0	1	0	0	0	104
rank value of 17s =	0	0	0	2	0	0	1	0	0	0	0	106
rank value of 17.4s =	0	0	0	0	0	0	0	0	0	1	0	108
rank value of 17.5s =	0	0	0	0	0	0	0	0	1	0	0	109
rank value of 17.6s =	0	0	0	0	0	1	0	0	0	0	0	110
rank value of 17.7s =	0	0	0	0	0	0	0	0	0	1	0	111
rank value of 17.9s =	0	0	0	0	1	0	0	0	0	0	0	112
rank value of 18s =	0	0	0	0	0	1	0	0	0	0	0	113
rank value of 19s =	0	0	0	0	1	0	0	1	0	0	0	114.5
rank value of 19.1s =	1	0	0	0	0	0	0	0	0	0	0	116
rank value of 19.6s =	1	0	0	0	0	0	0	0	0	0	0	117
rank value of 19.9s =	0	1	0	0	0	0	0	0	0	0	0	118
rank value of 20s =	0	0	1	0	0	1	0	0	0	0	0	119.5
rank value of 21s =	0	1	0	0	0	0	0	0	0	0	0	121
rank value of 21.9s =	0	0	1	0	0	0	0	0	0	0	0	122
rank value of 22s =	0	1	0	0	1	0	1	0	0	0	0	124
rank value of 22.2s =	1	0	0	0	0	0	0	0	0	0	0	126
rank value of 23s =	0	0	0	0	0	0	0	0	1	0	0	127
rank value of 23.1s =	1	0	0	0	0	0	0	0	0	0	0	128
rank value of 23.7s =	0	0	0	1	0	0	0	0	0	0	0	129

rank value of 23.9s =	0	0	0	0	0	1	0	0	0	0	0	130
rank value of 24s =	0	0	0	0	1	0	0	0	0	0	0	131
rank value of 24.4s =	0	0	0	0	1	0	0	0	0	0	0	132
rank value of 24.6s =	0	0	0	0	0	0	0	0	0	0	1	133
rank value of 25s =	0	0	0	0	0	1	0	0	0	0	0	134
rank value of 25.3s =	0	0	0	1	0	0	0	0	0	0	0	135
rank value of 25.7s =	1	0	0	0	0	0	0	0	0	0	0	136
rank value of 26s =	0	0	0	0	1	0	0	0	0	1	0	137.5
rank value of 27.3s =	1	0	0	0	0	0	0	0	0	0	0	139
rank value of 28s =	0	0	0	0	0	0	0	0	1	0	0	140
rank value of 29s =	1	0	0	0	0	0	0	0	0	0	0	141
rank value of 29.1s =	0	0	0	0	0	1	0	0	0	0	0	142
rank value of 30s =	0	0	1	1	1	1	0	0	0	0	0	144.5
rank value of 31s =	0	0	1	0	0	0	0	0	0	0	0	147
rank value of 32.4s =	0	0	0	0	0	0	1	0	0	0	0	148
rank value of 32.5s =	0	0	0	0	0	0	1	0	0	0	0	149
rank value of 33s =	0	0	0	0	0	0	1	1	0	0	0	150.5
rank value of 33.3s =	0	0	0	0	0	1	0	0	0	0	0	152
rank value of 34.5s =	1	0	0	0	0	0	0	0	0	0	0	153
rank value of 35s =	0	0	0	1	0	0	0	0	0	0	0	154
rank value of 35.2s =	0	0	0	0	0	0	0	0	1	0	0	155
rank value of 36s =	0	0	0	0	0	1	0	0	0	0	0	156
rank value of 36.9s =	0	0	0	0	0	1	0	0	0	0	0	157
rank value of 37s =	1	0	0	1	0	0	0	0	0	0	0	158.5
rank value of 37.4s =	0	0	0	0	1	0	0	0	0	0	0	160
rank value of 37.8s =	0	0	0	0	1	0	0	0	0	0	0	161
rank value of 38s =	0	0	0	0	0	0	0	1	0	0	0	162
rank value of 38.8s =	0	0	0	0	0	0	0	0	0	1	0	163
rank value of 42.9s =	0	0	0	0	0	0	0	0	0	0	1	164
rank value of 43s =	0	0	0	0	0	0	0	1	0	0	0	165
rank value of 43.5s =	0	1	0	0	0	0	0	0	0	0	0	166
rank value of 44s =	0	0	0	1	0	0	0	0	0	0	0	167
rank value of 48s =	0	0	0	0	1	0	0	0	0	0	0	168
rank value of 49.9s =	0	0	0	0	0	0	0	0	0	0	1	169
rank value of 50.3s =	0	0	1	0	0	0	0	0	0	0	0	170
rank value of 55s =	3	0	0	0	0	0	0	0	1	0	0	172.5
rank value of 56s =	0	0	0	0	0	0	0	1	0	0	0	175
rank value of 57s =	1	0	0	0	0	0	0	0	0	0	0	176
rank value of 59.2s =	0	0	1	0	0	0	0	0	0	0	0	177
rank value of 60.7s =	0	0	0	0	0	0	0	0	0	0	1	178
rank value of 63.8s =	0	0	0	0	0	0	0	0	0	0	1	179
rank value of 65s =	1	0	0	0	0	0	0	0	0	0	0	180
rank value of 66s =	0	1	0	0	0	0	0	0	0	0	0	181
rank value of 66.2s =	0	0	1	0	0	0	0	0	0	0	0	182
rank value of 66.5s =	1	0	0	0	0	0	0	0	0	0	0	183
rank value of 68s =	0	0	0	0	0	0	0	0	0	1	0	184
rank value of 70s =	0	0	0	0	0	0	0	0	0	1	0	185
rank value of 71.5s =	0	0	0	0	0	0	0	0	0	0	1	186
rank value of 74s =	1	0	0	0	0	0	0	0	0	0	0	187
rank value of 75s =	0	0	0	0	0	0	0	0	1	0	0	188
rank value of 81s =	0	0	0	0	0	0	0	0	1	0	0	189
rank value of 83s =	1	0	0	0	0	0	0	0	0	0	0	190
rank value of 86s =	2	0	0	0	0	0	0	0	0	0	0	191.5
rank value of 88s =	0	0	1	0	0	0	0	0	0	0	0	193
rank value of 91.1s =	0	0	0	0	0	0	0	0	0	1	0	194
rank value of 92s =	1	0	0	0	0	0	0	0	0	0	0	195
rank value of 99.9s =	0	0	1	0	0	0	0	0	0	0	0	196
rank value of 110s =	0	0	1	0	0	0	0	0	1	0	0	197.5
rank value of 120s =	0	1	0	0	0	0	0	0	1	1	0	200
rank value of 130s =	1	1	0	0	0	0	0	0	0	0	0	202.5
rank value of 138s =	0	0	0	0	0	0	0	0	0	0	1	204
rank value of 140s =	0	0	0	0	0	0	0	0	1	0	0	205
rank value of 150s =	1	0	0	0	0	0	0	0	0	0	0	206
rank value of 160s =	0	0	0	1	0	0	0	0	0	0	0	207
rank value of 170s =	0	0	0	0	0	0	0	0	0	1	0	208
rank value of 190s =	0	0	0	0	0	0	0	0	0	1	0	209
rank value of 200s =	0	0	0	0	0	0	0	0	0	1	2	211
rank value of 220s =	0	0	0	0	0	0	0	0	0	1	0	213
rank value of 230s =	2	0	0	1	0	0	0	0	0	1	0	215.5
rank value of 240s =	0	0	0	0	0	0	0	0	0	1	0	218
rank value of 250s =	0	0	0	0	0	0	0	0	1	0	0	219
rank value of 280s =	0	0	0	0	0	0	0	0	0	1	0	220
rank value of 336s =	0	0	0	0	0	0	0	0	0	0	1	221
rank value of 580s =	0	0	0	1	0	0	0	0	0	0	0	222
rank value of 770s =	0	0	0	0	0	0	0	0	0	0	1	223
rank value of 780s =	0	0	0	1	0	0	0	0	0	0	1	224.5
rank value of 800s =	0	0	0	0	0	0	0	0	0	0	2	226.5
rank value of 830s =	0	0	0	0	0	1	0	0	0	0	0	228
rank value of 1200s =	0	0	0	0	0	0	0	0	0	0	2	229.5
rank value of 1800s =	0	0	0	0	0	0	0	0	0	0	1	231
rank value of 4800s =	0	0	0	0	0	0	0	0	0	0	1	232
n =	**24**	**23**	**18**	**22**	**22**	**22**	**20**	**20**	**21**	**22**	**18**	

Sum of rank value calculations

0	320	128	160	256	192	288	288	192	192	0
0	65.5	0	0	0	65.5	0	65.5	65.5	0	0
0	0	0	0	0	68	0	0	0	0	0
0	0	0	0	0	0	0	69	0	0	0

0	0	0	0	0	0	70	0	0	0	0
0	0	0	0	71	0	0	0	0	0	0
0	0	0	0	0	72	0	0	0	0	0
0	0	73.5	0	0	0	0	0	73.5	0	0
0	0	0	0	75	0	0	0	0	0	0
0	79	79	79	0	0	158	79	0	79	0
0	0	0	83	0	0	0	0	0	0	0
0	0	84	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	85	0	0	0
0	0	0	0	86	0	0	0	0	0	0
0	88	0	0	0	88	88	0	0	0	0
0	0	0	0	0	0	90	0	0	0	0
0	93	0	93	0	93	93	0	93	0	0
0	96	0	0	0	0	0	0	0	0	0
0	0	97	0	0	0	0	0	0	0	0
0	0	0	99	0	0	0	99	99	0	0
0	0	0	101	0	0	0	0	0	0	0
0	102.5	0	0	102.5	0	0	0	0	0	0
0	0	0	0	0	0	0	104	0	0	0
0	0	0	212	0	0	106	0	0	0	0
0	0	0	0	0	0	0	0	0	108	0
0	0	0	0	0	0	0	0	109	0	0
0	0	0	0	0	110	0	0	0	0	0
0	0	0	0	0	0	0	0	0	111	0
0	0	0	0	112	0	0	0	0	0	0
0	0	0	0	0	113	0	0	0	0	0
0	0	0	0	114.5	0	0	114.5	0	0	0
116	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0
0	118	0	0	0	0	0	0	0	0	0
0	0	119.5	0	0	119.5	0	0	0	0	0
0	121	0	0	0	0	0	0	0	0	0
0	0	122	0	0	0	0	0	0	0	0
0	124	0	0	124	0	124	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	127	0	0
128	0	0	0	0	0	0	0	0	0	0
0	0	0	129	0	0	0	0	0	0	0
0	0	0	0	0	130	0	0	0	0	0
0	0	0	0	131	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	134	0	0	0	0	0
0	0	0	135	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0
0	0	0	0	137.5	0	0	0	0	137.5	0
139	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	140	0	0
141	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	142	0	0	0	0	0
0	0	144.5	144.5	144.5	144.5	0	0	0	0	0
0	0	147	0	0	0	0	0	0	0	0
0	0	0	0	0	0	148	0	0	0	0
0	0	0	0	0	0	149	0	0	0	0
0	0	0	0	0	0	150.5	150.5	0	0	0
0	0	0	0	0	152	0	0	0	0	0
153	0	0	0	0	0	0	0	0	0	0
0	0	0	154	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	155	0	0
0	0	0	0	0	156	0	0	0	0	0
0	0	0	0	0	157	0	0	0	0	0
158.5	0	0	158.5	0	0	0	0	0	0	0
0	0	0	0	160	0	0	0	0	0	0
0	0	0	0	161	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	163	0
0	0	0	0	0	0	0	0	0	0	164
0	0	0	0	0	0	0	165	0	0	0
0	166	0	0	0	0	0	0	0	0	0
0	0	0	167	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	169
0	0	170	0	0	0	0	0	0	0	0
517.5	0	0	0	0	0	0	0	172.5	0	0
0	0	0	0	0	0	0	175	0	0	0
176	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	0	0	179
180	0	0	0	0	0	0	0	0	0	0
0	181	0	0	0	0	0	0	0	0	0
0	0	182	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	0	0	0	184	0
0	0	0	0	0	0	0	0	0	185	0
0	0	0	0	0	0	0	0	0	0	186
187	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	189	0	0
190	0	0	0	0	0	0	0	0	0	0

383	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	194	0
195	0	0	0	0	0	0	0	0	0	0
0	0	196	0	0	0	0	0	0	0	0
0	0	197.5	0	0	0	0	0	197.5	0	0
0	200	0	0	0	0	0	0	200	200	0
202.5	202.5	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	205	0	0
206	0	0	0	0	0	0	0	0	0	0
0	0	0	207	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	208	0
0	0	0	0	0	0	0	0	0	209	0
0	0	0	0	0	0	0	0	0	211	422
0	0	0	0	0	0	0	0	0	213	0
431	0	0	215.5	0	0	0	0	0	215.5	0
0	0	0	0	0	0	0	0	0	218	0
0	0	0	0	0	0	0	0	219	0	0
0	0	0	0	0	0	0	0	0	220	0
0	0	0	0	0	0	0	0	0	0	221
0	0	0	222	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	223
0	0	0	224.5	0	0	0	0	0	0	224.5
0	0	0	0	0	0	0	0	0	0	453
0	0	0	0	0	228	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	459
0	0	0	0	0	0	0	0	0	0	231
0	0	0	0	0	0	0	0	0	0	232
sum of rank values (R_i) **4065.5**	**1956.5**	**2110**	**2584**	**1975**	**2164.5**	**1464.5**	**1556.5**	**2425**	**3048**	**3678.5**

Compute the Kruskal-Wallis statistic:

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

Well =	**Background**	**MW-1A**	**MW-2**	**MW-2D**	**MW-3**	**MW-3D**	**MW-4A**	**MW-8**	**MW-15**
Ri^2/N_i =	1017375.8	303503	177301	212957	107238	121135	280030	422287	751742

$N_{i\ bg}$ = 65
N = 232
H = 54.34

Adjust H for ties:

T_i = 250902 sum of T1..T5

$H' = H/(1-(T_i/(N^3-N)))$
H' = 55.46
Chi-square = 15.51

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 15.51 which is less than H' =55.46.
Therefore, there is evidence of significant differences between the well groups.
Post-hoc pairwise comparisons are necessary (see below).

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

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

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

Well =	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	**MW-15**
Rbar (well x) =	117.5	89.8	98.4	73.2	77.8	115.5	138.5	204.4
avg Rbar (background) =	125.1	125.1	125.1	125.1	125.1	125.1	125.1	125.1
Dx =	-7.7	-35.3	-26.7	-51.9	-47.3	-9.6	13.4	79.3
Cx =	38.6	38.6	38.6	40.0	40.0	39.3	38.6	41.7
Statistical Significance ?	No	No	No	No	No	No	No	**Yes**
If 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 J11-1957-27

Compound: **Total Zinc**
NC MCL (µg/l): 1050
Method: Shewhart-CUSUM Control Chart

Part 1: Check for Normality

	MW-15	MDL
9/26/2002	**4800**	**10**
4/28/2003	**800**	**10**
10/30/2003	**1800**	**10**
4/20/2004	**770**	**10**
10/21/2004	**1200**	**10**
4/18/2005	**1200**	**10**
10/13/2005	**800**	**10**
4/25/2006	**780**	**50**
10/20/2006	**200**	**10**
4/25/2007	**200**	**10**
10/31/2007	**336**	**10**
4/23/2008	**138**	**10**
10/20/2008	**71.5**	**10**
4/22/2009	NS	**10**
10/26/2009	**63.8**	**10**
4/22/2010	**24.6**	**10**
10/27/2010	**60.7**	**10**
4/29/2011	**42.9**	**10**
10/25/2011	**49.9**	**10**

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

4800	X_i values =	6.688E+10
800		205727.3
1800		1.188E+09
770		24473.197
1200		96723649
1200		96723649
800		205727.3
780		59471.23
200		-1.58E+08
200		-1.58E+08
336		-66413724
138		-2.19E+08
71.5		-3E+08
63.8		-3.11E+08
24.6		-3.68E+08
60.7		-3.15E+08
42.9		-3.4E+08
49.9		-3.3E+08

X_{bar} = 740.96667
SD = 1137.2949
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = 3.65E+09
γ_1= 2.7030577

Since the Coefficient of Skewness of 2.70 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 =	8.4763712	X_i values = 22.750286
	6.6846117	1.130643
	7.4955419	6.3594719
	6.6463905	1.0107082
	7.0900768	3.0312687
	7.0900768	3.0312687
	6.6846117	1.130643
	6.6592939	1.0501977
	5.2983174	-0.040891
	5.2983174	-0.040891
	5.8171112	0.0052933
	4.9272537	-0.366416
	4.2696974	-2.589053
	4.1557532	-3.288543
	3.2027464	-14.52834
	4.1059437	-3.630182
	3.7588718	-6.68677

3.910021	-5.203013

X_{bar} = 5.6428338
SD = 1.5263594
N = 18
$1/N\Sigma_i(X_i-X_{bar})^3$ = 0.1736487
γ_1= 0.0532031

Since the Coefficient of Skewness of 0.05 is less than 1.0, the data appear not to be significantly skewed. Proceed with further statistical tests using the log-transformed values shown above.

Part 2: Shewhart-CUSUM Control Chart

Date	MW-15	MDL	Data for Testing
9/26/2002	**4800**	10	8.4763712
4/28/2003	**800**	10	6.6846117
10/30/2003	**1800**	10	7.4955419
4/20/2004	**770**	10	6.6463905
10/21/2004	**1200**	10	7.0900768
4/18/2005	**1200**	10	7.0900768
10/13/2005	**800**	10	6.6846117
4/25/2006	**780**	50	6.6592939
10/20/2006	**200**	10	5.2983174
4/25/2007	**200**	10	5.2983174
10/31/2007	**336**	10	5.8171112
4/23/2008	**138**	10	4.9272537
10/20/2008	**71.5**	10	4.2696974
4/22/2009	NS	10	-
10/26/2009	**63.8**	10	4.1557532
4/22/2010	**24.6**	10	3.2027464
10/27/2010	**60.7**	10	4.1059437
4/29/2011	**42.9**	10	3.7588718
10/25/2011	**49.9**	10	3.910021

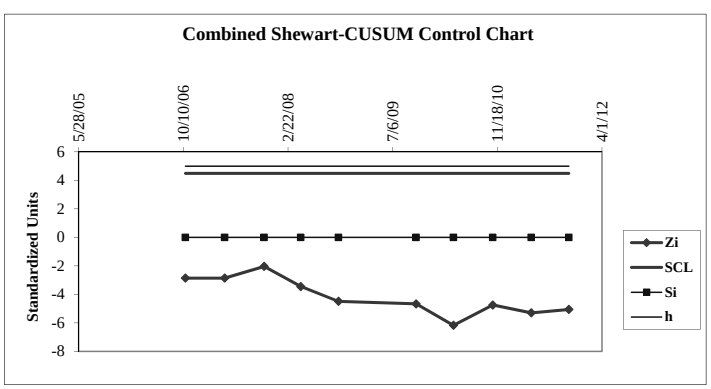
Compute the mean and standard deviation of the historical data:

7.1033718 = x_{mean} (Mean of N1-N8 historical data)
0.6320076 = s (Standard Deviation of N1-N8 historical data)
1 = k (constant, reference value)
5 = h (constant, upper control limit for the CUSUM scheme)
4.5 = SCL (Constant, upper Shewhart Control Limit)

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

Date	x_i	Z_i	S_i	h	SCL
			0		
10/20/2006	5.2983174	-2.8560645	0	5	4.5
4/25/2007	5.2983174	-2.8560645	0	5	4.5
10/31/2007	5.8171112	-2.0351981	0	5	4.5
4/23/2008	4.9272537	-3.4431835	0	5	4.5
10/20/2008	4.2696974	-4.483608	0	5	4.5
10/26/2009	4.1557532	-4.6638974	0	5	4.5
4/22/2010	3.2027464	-6.1718013	0	5	4.5
10/27/2010	4.1059437	-4.7427089	0	5	4.5
4/29/2011	3.7588718	-5.2918667	0	5	4.5
10/25/2011	3.910021	-5.0527095	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 J11-1957-27

Compound: **Acetone**
MCL (µg/l): 700
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NS	**100**
06/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
07/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**100**
04/09/01	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
04/15/02	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/26/02	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	**100**
10/30/03	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	**10**
10/21/04	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	**25**
10/13/05	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	**25**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
04/25/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
10/31/07	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	**25**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**140**	**25**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**25**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	**25**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**25**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**
10/25/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**25**

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

04/24/00	-	-	-	-	-	-	-	-	-	-	-
06/26/00	-	-	-	-	-	-	-	-	-	-	-
07/26/00	-	-	-	-	-	-	-	-	-	-	-
09/18/00	-	-	-	-	-	-	-	-	-	-	-
04/09/01	-	-	-	-	-	-	-	-	-	-	-
09/18/01	-	-	-	-	-	-	-	-	-	-	-
10/29/01	-	-	-	-	-	-	-	-	-	-	-
01/30/02	-	-	-	-	-	-	-	-	-	-	-
02/28/02	-	-	-	-	-	-	-	-	-	-	-
04/15/02	-	-	-	-	-	-	-	-	-	-	-
09/26/02	-	-	-	-	-	-	-	-	-	-	-
04/28/03	-	-	-	-	-	-	-	-	-	-	-
10/30/03	5	5	5	5	5	5	5	5	5	5	5
04/20/04	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
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
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
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
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
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
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
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
10/20/08	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	140
04/22/09	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	-
10/26/09	12.5	12.5	12.5	12.5	12.5	12.5	-	-	-	12.5	12.5
04/22/10	12.5	12.5	12.5	12.5	12.5	12.5	-	-	12.5	12.5	12.5
10/27/10	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
04/29/11	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
10/25/11				12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5

2) Set the total number of data values for background wells (through the previous sampling event) equal to 'n' = 16.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 48$
$T_{n1} = 532.5$

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).

$k = 8$
$n = 48$
$T_{n1} = 532.5$
$t\,[47,.01] = 2.4115$
$c = 0.1667$
$T_{n2} = 100$
$T^*_k = 113.8$

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

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

Compound: **Carbon Disulfide**
MCL (µg/l): 700
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NS	**100**
06/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
07/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**100**
04/09/01	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
04/15/02	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/26/02	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	**100**
10/30/03	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	**10**
10/21/04	ND	**24**	ND	ND	ND	ND	ND	ND	**15**	ND	ND	**10**
04/18/05	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	**10**
04/25/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/07	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	**2**
04/23/08	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	**2**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**4.5**	ND	NS	**2**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	**2**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**2**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2**
10/25/11	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	5	5
04/20/04	5	5	5	5	5	5	5	5	5	5	5
10/21/04	5	24	5	5	5	5	5	5	15	5	5
04/18/05	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
04/25/06	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
04/25/07	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
04/23/08	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
04/22/09	1	1	1	1	1	1	1	1	4.5	1	-
10/26/09	1	1	1	1	1	1	-	-	-	1	1
04/22/10	1	1	1	1	1	1	-	-	1	1	1
10/27/10	1	1	1	1	1	1	1	1	1	1	1
04/29/11	1	1	1	1	1	1	1	1	1	1	1
10/25/11				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' = 16.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 48$
$T_{n1} = 163$

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).

$k = 8$
$n = 48$
$T_{n1} = 163$
$t\,[47,.01] = 2.4115$
$c = 0.1667$
$T_{n2} = 8$
$T^*_k = 41.2$

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

White Oak Landfill
Haywood County, North Carolina
BLE Project Number J11-1957-27

Compound: **2-Butanone**
MCL (µg/l): 4200
Method: Poisson Prediction Limits
Background: MW-11S, MW-11D, & MW-14

	MW-11S	MW-11D	MW-14	MW-1A	MW-2	MW-2D	MW-3	MW-3D	MW-4A	MW-8	MW-15	MDL
04/24/00	NT	NS	NS	NT	NT	NT	NT	NT	NT	NT	NS	**100**
06/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
07/26/00	NT	NT	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
09/18/00	NS	NS	NS	NT	NT	NS	NS	NS	NT	NS	NS	**100**
04/09/01	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
10/29/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
01/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
02/28/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**100**
04/15/02	NT	NT	NS	NT	NT	NT	NT	NT	NT	NT	NS	**100**
09/26/02	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	**100**
10/30/03	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	**10**
10/21/04	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	**10**
10/13/05	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	**10**
10/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
04/25/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10**
10/31/07	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	**5**
10/20/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**54.4**	**5**
04/22/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	**5**
10/26/09	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	**5**
04/22/10	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND	ND	**5**
10/27/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
04/29/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
10/25/11	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	-	-	-	-	-	-	-	-	-	-	-
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
04/20/04	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
04/18/05	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
04/25/06	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
04/25/07	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
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
10/20/08	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	54.4
04/22/09	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-
10/26/09	2.5	2.5	2.5	2.5	2.5	2.5	-	-	-	2.5	2.5
04/22/10	2.5	2.5	2.5	2.5	2.5	2.5	-	-	2.5	2.5	2.5
10/27/10	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
04/29/11	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
10/25/11				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' = 16.
Use 1/2 of the method detection limit to calculate the Total Poisson Count of the Sum (T_n).

$n = 48$
$T_{n1} = 180$

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).

$k = 8$
$n = 48$
$T_{n1} = 180$
$t\,[47,.01] = 2.4115$
$c = 0.1667$
$T_{n2} = 20$
$T^*_k = 44.8$

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