

Southern Nuclear
Operating Company, Inc.
42 Inverness Center Parkway
Birmingham, Alabama 35242



April 28, 2006

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FEDERAL EXPRESS

Vogtle Electric Generating Plant Landfills #2 and #3
Solid Waste Permit No. 017-006D(L)(I)
Solid Waste Permit No. 017-007D(L)(I)

Mr. Steve McManus
Solid Waste Management Program
Georgia Environmental Protection Division
4244 International Parkway, Suite 104
Atlanta, GA 30354

Dear Mr. McManus:

In response to your telephone request, Southern Nuclear has prepared individual landfill groundwater monitoring reports from the December, 2005 Vogtle Landfill #2 and #3 combined report. The combined report was submitted to EPD under a Southern Nuclear correspondence dated March 27, 2006. It is understood that EPD prefers individual reports for each Vogtle landfill for this, and future groundwater monitoring events to facilitate report filing. The information and conclusions provided in these individual groundwater monitoring reports remains unchanged since the March 27 submittal of the combined report.

Please find enclosed both individual December, 2005 groundwater monitoring reports for Vogtle Landfill #2 and Landfill #3 attached under this correspondence. Future groundwater monitoring reports will be submitted under two separate cover letters to the EPD Solid Waste Management Program Manager. If you have any questions, please contact Mickey Perry at (205) 992-6994.

Sincerely,


J. M. Godfrey
Manager – Environmental Affairs

JMG/MEP:ahl

Enclosure

EV-06-0893

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Georgia Environmental Protection Division

Mr. Steve McManus

cc: Mr. Michael Kemp (w/o)
Mr. Earl Hinkle (w/o)
Mr. Kurt Batsell (Dextra) (w/o)

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Georgia Environmental Protection Division

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**GROUNDWATER MONITORING REPORT
PLANT VOGTLE LANDFILL #2
SOLID WASTE PERMIT NO. 017-006D(L)(I)
BURKE COUNTY, GEORGIA
APRIL 2006**

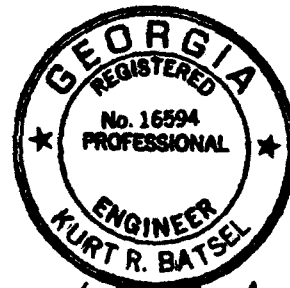
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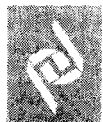
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4/26/06

**GROUNDWATER MONITORING REPORT
PLANT VOGTLE LANDFILL #2
SOLID WASTE PERMIT NO. 017-006D(L)(I)
BURKE COUNTY, GEORGIA
APRIL 2006**

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- B – Laboratory Analytical Report
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1 – Introduction

This report presents the results of groundwater sampling conducted in December 2005 at private solid waste Landfill #2 operated by Southern Nuclear Operating Company, Inc. (SNC) at Plant Vogtle in Waynesboro, Georgia. Groundwater monitoring was initiated in 2002 in accordance with the approved Groundwater Monitoring Plan for the landfills. The landfill is operated under Solid Waste Permit #s 017-006D(L)(I) and is used for disposal of non-putrescible, non-liquid office and solid waste as well as construction/demolition debris such as asbestos insulation, wooden pallets and concrete. The active trench is used only for asbestos disposal.

Sampling, analyses and data evaluation were conducted in accordance with the rules of the Georgia Department of Natural Resources Environmental Protection Division (EPD), Chapter 391-3-4, the September 1991 “Manual for Groundwater Monitoring” and the approved Groundwater Monitoring Plan for the landfills.

The findings of the initial four sampling events, conducted from August 2002 through December 2002, and subsequent semi-annual sampling events are presented in reports previously submitted to the EPD. This report presents the results of the December 2005 semi-annual monitoring event. Subsequent reports will be prepared upon completion of semi-annual monitoring events as scheduled in the Groundwater Monitoring Plan.

2 – Monitoring Well Network

The groundwater monitoring well network consists of four permanent monitoring wells located along the north, east and south waste unit management boundaries of Landfill #2 (*Figure 1*). As shown in the figures, the wells are located outside of, but as close as practical to, the waste disposal areas. The wells are screened within the uppermost water-producing zones underlying the landfill, which occur from approximately 35 to 60 feet below land surface.

The four permanent groundwater monitoring wells at Landfill #2 were installed in September 2001 after advancing a total of eight deep soil borings around the landfill boundary. The upgradient well is GWA-2/MW-2 and the downgradient, or compliance, wells are GWC-3/MW-3, GWB-4/MW-4 and GWC-11/MW-11. The well construction details are presented in *Table 1*. The wells will be referred to as GWA-2, GWC-3, GWB-4 and GWC-11 in this report consistent with the EPD’s well identification guidelines.

3 – Groundwater Flow Rate and Directional Data

3.1 Geology/Hydrogeology

The geology of the Plant Vogtle site consists of sedimentary deposits within the Coastal Plain physiographic province of Georgia. These sediments consist of unconsolidated sands, silts and clays comprised of marine and non-marine fluvial deposits. Marls and limestone were also encountered at depth in deep borings completed at the landfills. A boring completed to approximately 126 feet below land surface at the northwest boundary of Landfill #2 appears to have been completed just into or immediately on top of the Utley Limestone member. The marls encountered during drilling were components of the Irwinton Sand member. Either all or parts of the Barnwell Group members (except the Utley Limestone member) were also encountered in the other borings conducted at the landfill. Underlying the Barnwell Group is the Lisbon Formation with its uppermost unit, the Blue Bluff Marl, located immediately under the Utley Limestone. This marl layer, approximately 70 feet

thick, is a near-impermeable layer that effectively confines the Tertiary and Cretaceous aquifers, the two confined aquifers beneath the Plant site.

The occurrence of groundwater underlying the landfill appears in confined, semi-confined, unconfined, and perched hydrogeologic units. Groundwater is found primarily in sands, silty sands, clayey sands and marl limestone interfaces. The main difference between boring/well water production characteristics and aquifer confining characteristics appears to be the thickness of the water-producing zone, the grain size of the sand component, the sand/clay ratio and the characteristics of the marl/limestone interface.

Groundwater may also exist in an unconfined water table aquifer in the Barnwell sands and limestone that overlie the marl. The water table aquifer at the site is on an interfluvial ridge, or a topographically high area in which the groundwater in the water table discharges along streams that surround the topographic high. The streams eventually discharge to the Savannah River.

3.2 Groundwater Elevations and Gradients

During well installation, the occurrence of groundwater was determined by collecting continuous split spoon samples beginning approximately five feet above the location of expected groundwater-producing zones. At the landfill, groundwater was generally found in water producing zones less than one foot thick and was observed to be under semi-confined or confined conditions.

Upon completion of all drilling activities, measuring points were located on the tops of the well casings and surveyed relative to mean sea level (msl). During each sampling event, depth to water measurements were recorded in the wells from the surveyed elevations using an electronic water-level indicator. The water level measurements were then subtracted from the appropriate measuring point elevations to determine groundwater elevations in the wells.

Hydraulic conductivity (K) in the wells was measured on September 26, 2001. The values ranged from 5.634×10^{-4} cm/sec in GWA-2 to 3.064×10^{-2} cm/sec in GWA-2.

Depth to water measurements and groundwater elevations for the wells at Landfill 2 are presented in *Table 1*. Groundwater elevations measured during the sampling events to date indicate groundwater underneath Landfill 2 trends from a relatively higher elevation at the eastern/northeastern portion of the landfill (GWA-2) to relatively lower elevations to the west/southwest beneath the landfill (*Figure 1*). Well GWC-11 is not used to construct the potentiometric surface map because the uppermost water-bearing unit at this location appears to be within a different hydrologic zone based on the significantly lower groundwater elevation measured in well GWC-11 compared to wells GWA-2, GWC-3 and GWA-4.

The hydraulic gradient of 0.014 (shown on *Figure 1* for December 2005) was calculated using a three-point problem from potentiometric surface elevations in monitoring wells GWA-2, GWC-3 and GWA-4. The calculations used in determining the gradient are provided in *Appendix A*. The hydraulic gradient has ranged from a minimum of 0.01 (October 2002 and December 2004) to a maximum of 0.08 (June 2003).

4 – Sampling Procedures and Parameter Analyses

4.1 Procedures and Field Measurements

Prior to sample collection during each sampling event, depth to water measurements are recorded in each well from the surveyed elevations using an electronic water level indicator. The water level indicator is decontaminated using a potable water and Alconox® wash and a distilled water rinse between use at each well. The water level measurements are then subtracted from the appropriate measuring point elevations to determine the groundwater elevations in the wells.

Groundwater samples were collected from all monitoring wells after the wells were properly purged according to the EPA document entitled “Low-Flow Purging & Sampling of Groundwater Monitoring Wells (Bulletin QAD023)”. The wells were purged and sampled using QED SamplePro pumps equipped with Teflon® bladders. Purge rates were matched to the recovery rates of the wells, verified by periodic depth to water measurements to determine draw-down during purging. Purging was conducted until at least three consecutive stable readings of pH, conductivity, and turbidity were recorded. Groundwater samples were then collected directly into pre-preserved sample containers supplied by the laboratory. Final measurements of pH, conductivity, and turbidity were performed to verify that these parameters remained stable during sampling. All field instruments were calibrated in the field daily prior to use and at the conclusion of each sampling event. The field measurements are provided in *Table 2*.

After each sample was collected, the SamplePro pumps and airlines were decontaminated according to the following protocol:

- The pump and air line were placed on clean plastic;
- The pump was disassembled and the bladder was removed;
- The pump was sprayed with a potable water and Alconox® solution, followed with a distilled water rinse until all soap residue was removed;
- A new pump bladder was then installed in the pump prior to reassembly; and
- The pump airline was placed in a clean plastic bag between use at each well.

4.2 Parameter Analyses

In accordance with the approved Groundwater Monitoring Plan, the groundwater samples and field and laboratory quality assurance/quality control (QA/QC) samples were analyzed for the Chapter 391-3-4 Appendix I list of parameters, which consists of total metals and volatile organic compounds (*Table 4*). The field QA/QC samples consisted of duplicate samples, trip blanks and equipment blanks. Metals analyses were conducted using EPA Methods 6010B/7841, and VOCs analyses were conducted using EPA Methods 6010B/8260B and 504.1 to provide sufficiently sensitive quantitation limits for comparison with maximum contaminant limits. Advanced Chemistry Labs, Inc., Atlanta, Georgia performed the laboratory analyses. The complete laboratory analytical reports, which include field and laboratory QA/QC results and chain-of-custody forms, are provided in *Appendix B*.

5 – Groundwater Quality Evaluation

5.1 Detected Parameters

Table 4 presents a summary of all analyzed parameters detected above the laboratory method reporting limits. Barium was detected at 0.025 milligrams per liter (mg/l) in well GWC-3 and 0.021 mg/l in GWB-4. The maximum contaminant level (MCL) for barium is 2.0 mg/l. Zinc was detected

at 0.08 mg/l in well GWA-2, 0.137 mg/l in well GWC-3, 0.082 mg/l in well GWB-4 and 0.181 in GWC-11. No organic parameters were detected during this monitoring event.

No parameters were detected in any of the field or laboratory QA/QC samples, and the laboratory QA/QC checks were within acceptable limits.

5.2 Statistical Analyses

In accordance with the approved Groundwater Monitoring Plan, statistical analyses were conducted for each constituent detected in the compliance well samples for this sampling event. The analyses were conducted to help identify any significant increase in constituent concentrations in downgradient, or compliance, well samples over samples representative of background water quality. The analyses were conducted consistent with U.S. EPA recommended methods as detailed in the guidance document “Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Interim Final Guidelines” (1989) and the corresponding Addendum (1992).

The following methodology was used to evaluate the data:

- The distribution of the data was first evaluated for normality using either the Shapiro-Wilkes Test (for parameters with less than 50 samples) or the Shapiro-Francia Test (for parameters with greater than 50 samples) as recommended in the 1992 EPA guidance. The tests indicate that the concentrations of all detected parameters do not follow normal distributions.
- For the well data sets at the landfill, the Kruskal-Wallis non-parametric analysis of variance method was used to compare the concentrations of individual parameters in each compliance well to the concentrations of these parameters in the background well. This method is recommended by the 1992 EPA guidance for non-normal sample sets that have between 15% and 90% non-detects.

The detailed statistical analyses are provided in *Appendix C* and the results are summarized below.

At Landfill #2, statistical analysis was performed for the two detected parameters barium and zinc. The analyses do not indicate statistically significant higher concentrations for these parameters in the compliance well samples compared to the concentrations in the background well sample.

6 – Conclusions

As no statistically significant detections were found during this monitoring event, no modifications to the monitoring program or additional notices in the operating record are required at this time.

TABLES

Table 1
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Groundwater Elevations and Monitoring Well Construction Details

Well ID	Date	Measuring Point Elevation (feet, msl)	Ground Surface Elevation (feet, msl)	Depth to Water (feet, topvc)	Total Boring Depth (feet, bls)	Total Well Depth (feet, topvc)	Riser Height (feet)	Screened Interval (feet, msl)	Groundwater Elevation (feet, msl)
GWA-2/MW-2	9/26/2001	249.41	246.76	40.02	57	47.70	2.65	201.76 to 211.76	209.39
	7/29/2002			41.69					207.72
	9/9/2002			41.64					207.77
	10/21/2002			42.72					206.69
	12/3/2002			40.69					208.72
	6/24/2003			37.58					211.83
	12/17/2003			39.98					209.43
	6/15/2004			39.59					209.82
	12/28/2004			43.02					206.39
	6/13/2005			39.41					210.00
GWC-3/MW-3	12/5/2005			40.40					209.01
	9/26/2001	250.41	247.81	50.45	62	52.60	2.60	197.81 to 207.81	199.96
	7/29/2002			50.05					200.36
	9/9/2002			50.79					199.62
	10/21/2002			49.30					201.11
	12/3/2002			50.26					200.15
	6/24/2003			51.58					198.83
	12/17/2003			47.89					202.52
	6/15/2004			47.44					202.97
	12/28/2004			49.13					201.28
	6/13/2005			46.77					203.64
GWB-4/MW-4	12/5/2005			47.34					203.07
	9/26/2001	242.40	239.83	39.84	57	48.57	2.57	193.83 to 203.83	202.56
	7/29/2002			40.06					202.34
	9/9/2002			41.27					201.13
	10/21/2002			40.50					201.90
	12/4/2002			39.65					202.75
	6/24/2003			38.10					204.30
	12/17/2003			39.53					202.87
	6/15/2004			39.46					202.94
	12/28/2004			40.02					202.38
	6/13/2005			38.96					203.44
GWC-11/MW-11	12/5/2005			39.70					202.70
	7/29/2002	227.53	225.09	64.80	65	67.44	2.44	160.09 to 170.09	162.73
	9/9/2002			59.99					167.54
	10/21/2002			65.27					162.26
	12/4/2002			65.49					162.04
	6/24/2003			59.72					167.81
	12/17/2003			59.33					168.20
	6/15/2004			60.69					166.84
	12/28/2004			62.71					164.82
	6/13/2005			62.96					164.57
	12/5/2005			62.73					164.80

Notes:

Ground surface measured at survey bolt set in concrete pad at base of protective casing.

msl = mean sea level.

topvc = measured from top of pvc riser.

bls = below land surface.

Table 2
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Groundwater Sampling Field Measurements

Well ID	Date	pH	Conductivity ^{/1}	Turbidity ^{/2}	Gallons Purged	Odor	Color	Comments
GWA-2/MW-2	9/26/2001	--	--	--	--	--	--	Well development only
	7/29/2002	4.69	19	13.8	2.5	none	none	
	9/9/2002	4.51	24.9	7.53	--	none	none	
	10/21/2002	5.17	18	1.31	3.1	none	none	
	12/3/2002	5.30	13	9.1	3.5	none	none	
	6/24/2003	6.28	26.9	5.76	1.0	none	none	
	12/17/2003	4.93	22.7	4.5	3.5	none	none	
	6/16/2004	6.97	15.32	5.9	1.5	none	none	
	12/28/2004	4.80	10.3	9.67	2.0	none	none	
	6/14/2005	5.28	17.8	8.65	2.5	none	none	
	12/6/2005	6.82	17	6.36	2.0	none	none	
GWC-3/MW-3	9/26/2001	--	--	--	--	--	--	Well development only
	7/29/2002	4.08	27.9	22.2	1.3	none	none	
	9/9/2002	6.03	36.5	4.08	0.5	none	none	
	10/21/2002	--	176	35.6	<0.5 gal	--	--	
	12/3/2002	5.51	488	14.0	<0.5 gal	--	--	
	6/24/2003	--	--	--	<0.5 gal	none	none	
	12/17/2003	6.59	22.7	2.79	2.0	none	none	
	6/16/2004	4.91	40.8	5.78	1.25	none	none	
	12/28/2004	--	--	--	--	--	--	
	6/14/2005	5.83	29.5	4.25	1.25	none	none	
	12/6/2005	5.88	35	5.89	1.50	none	none	
GWB-4/MW-4	9/26/2001	4.73	36.0	15.5	35.0	--	--	Well development only
	7/29/2002	4.21	269	3.63	2.0	none	none	
	9/9/2002	4.35	34.8	0.55	2.0	none	none	
	10/21/2002	5.01	25	6.44	3.0	none	none	
	12/4/2002	5.51	98.7	2.60	4.0	none	none	
	6/24/2003	5.33	36.0	5.27	2.0	none	none	
	12/17/2003	4.62	3.55	0.00	1.5	none	none	
	6/16/2004	4.63	33.80	1.40	3.3	none	none	
	12/28/2004	4.43	20.70	0.00	2.0	none	none	
	6/14/2005	4.66	38.25	2.50	2.5	none	none	
	12/7/2005	4.80	43.00	2.08	1.5	none	none	
GWC-11/MW-11	7/29/2002	5.30	67.5	36.6	4.0	none	pale white	
	9/9/2002	6.24	97.0	6.51	2.0	none	none	
	10/21/2002	5.05	75.0	8.05	1.8	none	none	
	12/4/2002	5.72	57.1	8.10	2.0	none	none	
	6/24/2003	6.93	70.0	2.70	2.5	none	none	
	12/17/2003	7.04	69.2	11.2	4.5	none	none	
	6/16/2004	6.10	58.9	6.1	3.5	none	none	
	12/28/2004	5.85	30.5	9.3	2.0	none	none	
	6/14/2005	5.98	33.2	8.6	2.5	none	none	
	12/7/2005	5.95	32.0	3.0	2.0	none	none	

Notes:

-- = no data recorded

/1 - Conductivity in units of umhos/sec

/2 - Turbidity in units of NTU

Table 3
Southern Nuclear Operating Company
Plant Vogtle Landfill #2
Appendix I to Part 40 CFR Part 258: Constituents for Detection Monitoring (1)

Common Name (2)	EPA Method
Inorganic Constituents:	
(1) Antimony.....	6010B/7041
(2) Arsenic.....	6010B/7061
(3) Barium.....	6010B/7091
(4) Beryllium.....	6010B/7091
(5) Cadmium.....	6010B/7131
(6) Chromium.....	6010B/7191
(7) Cobalt.....	6010B/7201
(8) Copper.....	6010B/7211
(9) Lead.....	6010B/7421
(10) Nickel.....	6010B/7520
(11) Selenium.....	6010B/7741
(12) Silver.....	6010B/7761
(13) Thallium.....	6010B/7841
(14) Vanadium.....	6010B/7911
(15) Zinc.....	6010B/7951
Organic Constituents:	8260
(16) Acetone.....	
(17) Acrylonitrile.....	
(18) Benzene.....	
(19) Bromochloromethane.....	
(20) Bromodichloromethane.....	
(21) Bromoform; Tribromomethane.....	
(22) Carbon disulfide.....	
(23) Carbon tetrachloride.....	
(24) Chlorobenzene.....	
(25) Chloroethane; Ethyl chloride.....	
(26) Chloroform; Trichloromethane.....	
(27) Dibromochloromethane; Chlorodibromomethane.....	
(28) 1,2-Dibromo-3-chloropropane; DBCP.....	
(29) 1,2-Dibromoethane; Ethylene dibromide; EDB.....	
(30) o-Dichlorobenzene; 1,2-Dichlorobenzene.....	
(31) p-Dichlorobenzene; 1,4-Dichlorobenzene.....	
(32) trans-1,4-Dichloro-2-butene.....	
(33) 1,1-Dichloroethane; Ethylidene chloride.....	
(34) 1,2-Dichloroethane; Ethylene dichloride.....	
(35) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride.....	
(36) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene....	
(37) trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	
(38) 1,2-Dichloropropane; Propylene dichloride.....	
(39) cis-1,3-Dichloropropene.....	
(40) trans-1,3-Dichloropropene.....	
(41) Ethylbenzene.....	
(42) 2-Hexanone; Methyl butyl ketone.....	
(43) Methyl bromide; Bromomethane.....	
(44) Methyl chloride; Chloromethane.....	

Table 3 (continued)
Southern Nuclear Operating Company, Inc.
Plant Vogtle Landfill #2
Appendix I to Part 40 CFR Part 258: Constituents for Detection Monitoring (1)

Common Name (2)	EPA Method
(45) Methylene bromide; Dibromomethane.....	8260
(46) Methylene chloride; Dichloromethane.....	
(47) Methyl ethyl ketone; MEK; 2-Butanone.....	
(48) Methyl iodide; Iodomethane.....	
(49) 4-Methyl-2-pentanone; Methyl isobutyl ketone.....	
(50) Styrene.....	
(51) 1,1,1,2-Tetrachloroethane.....	
(52) 1,1,2,2-Tetrachloroethane.....	
(53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene.....	
(54) Toluene.....	
(55) 1,1,1-Trichloroethane; Methylchloroform.....	
(56) 1,1,2-Trichloroethane.....	
(57) Trichloroethylene; Trichloroethene.....	
(58) Trichlorofluoromethane; CFC-11.....	
(59) 1,2,3-Trichloropropane.....	
(60) Vinyl acetate.....	
(61) Vinyl chloride.....	
(62) Xylenes.....	

(1) This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 ``Test Methods for Evaluating Solid Waste,`` third edition, November 1986, as revised December 1987, includes Method 8260; and 15 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.

(2) Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

Table 4
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
December 2005

CONSTITUENT	MCL	WELL SAMPLES			
		GWA-2/MW-2	GWC-3/MW-3	GWB-4/MW-4	GWC-11/MW-11
Metals¹					
Barium	2.00	BQL	0.025	0.021	BQL
Zinc	NA	0.08	0.137	0.082	0.181
Organics²					
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL
1,4-Dicholorbenzene	75	BQL	BQL	BQL	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL
Trichlorofluoromethane	NA	BQL	BQL	BQL	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

NS - Not sampled; well dry or insufficient recharge to sample well

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
June 2005

CONSTITUENT	MCL	WELL SAMPLES			
		GWA-2/MW-2	GWC-3/MW-3	GWB-4/MW-4	GWC-11/MW-11
Metals¹					
Barium	2.00	0.021	BQL	0.042	0.034
Zinc	NA	BQL	BQL	0.029	0.025
Organics²					
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL
1,4-Dicholorbenzene	75	BQL	BQL	BQL	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL
Trichlorofluoromethane	NA	BQL	BQL	BQL	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

NS - Not sampled; well dry or insufficient recharge to sample well

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
December 2004

CONSTITUENT	MCL	WELL SAMPLES			
		GWA-2/MW-2	GWC-3/MW-3	GWB-4/MW-4	GWC-11/MW-11
Metals¹					
Barium	2.00	BQL	NS	0.021	BQL
Zinc	NA	BQL	NS	BQL	BQL
Organics²					
1,1-Dichloroethane	NA	BQL	NS	BQL	BQL
Chlorobenzene	100	BQL	NS	BQL	BQL
1,4-Dicholorbenzene	75	BQL	NS	BQL	BQL
Methylene chloride	5	BQL	NS	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	NS	BQL	BQL
Trichlorofluoromethane	NA	BQL	NS	BQL	BQL
1,1-Dichloroethene	7	BQL	NS	BQL	BQL
Xylenes (Total)	10000	BQL	NS	BQL	BQL
Vinyl chloride	2	BQL	NS	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

NS - Not sampled; well dry or insufficient recharge to sample well

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
June 2004

CONSTITUENT	MCL	WELL SAMPLES			
		GWA-2/MW-2	GWC-3/MW-3	GWB-4/MW-4	GWC-11/MW-11
Metals¹					
Barium	2.00	BQL	0.020	BQL	BQL
Zinc	NA	BQL	BQL	BQL	BQL
Organics²					
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL
1,4-Dicholorbenzene	75	BQL	BQL	BQL	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL
Trichlorofluoromethane	NA	BQL	BQL	7	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
December 2003

CONSTITUENT	MCL	WELL SAMPLES			
		GWA-2/MW-2	GWC-3/MW-3	GWB-4/MW-4	GWC-11/MW-11
Metals¹					
Barium	2.00	BQL	BQL	BQL	0.022
Zinc	NA	BQL	BQL	BQL	BQL
Organics²					
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL
1,4-Dicholorbenzene	75	BQL	BQL	BQL	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL
Trichlorofluoromethane	NA	BQL	BQL	6	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
June 2003

CONSTITUENT	MCL	WELL SAMPLES			
		GWA-2/MW-2	GWC-3/MW-3	GWB-4/MW-4	GWC-11/MW-11
Metals¹					
Barium	2.00	BQL	NS	BQL	BQL
Zinc	NA	BQL	NS	BQL	0.029
Organics²					
1,1-Dichloroethane	NA	BQL	NS	BQL	BQL
Chlorobenzene	100	BQL	NS	BQL	BQL
1,4-Dicholorbenzene	75	BQL	NS	BQL	BQL
Methylene chloride	5	BQL	NS	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	NS	BQL	BQL
Trichlorofluoromethane	NA	BQL	NS	BQL	BQL
1,1-Dichloroethene	7	BQL	NS	BQL	BQL
Xylenes (Total)	10000	BQL	NS	BQL	BQL
Vinyl chloride	2	BQL	NS	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

NS - Not sampled; well dry or insufficient recharge to sample well

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
December 2002

CONSTITUENT	MCL	WELL SAMPLES				
		GWA-2/MW-2	GWC-3/MW-3	GWB-4/MW-4	GWB-4/MW-4 ³	GWC-11/MW-11
Metals¹						
Barium	2.00	0.015	0.020	0.021	0.020	0.018
Zinc	NA	BQL	0.047	BQL	BQL	BQL
Organics²						
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	75	BQL	BQL	BQL	BQL	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL	BQL
Trichlorofluoromethane	NA	BQL	BQL	BQL	BQL	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
October 2002

CONSTITUENT	MCL	WELL SAMPLES			
		GWA-2/MW-2	GWC-3/MW-3 ³	GWB-4/MW-4	GWC-11/MW-11
Metals ¹					
Barium	2	BQL	NS	0.021	0.025
Zinc	NA	BQL	NS	BQL	BQL
Organics ²					
1,1-Dichloroethane	NA	BQL	NS	BQL	BQL
Chlorobenzene	100	BQL	NS	BQL	BQL
1,4-Dichlorobenzene	75	BQL	NS	BQL	BQL
Methylene chloride	5	BQL	NS	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	NS	BQL	BQL
Trichlorofluoromethane	NA	BQL	NS	BQL	BQL
1,1-Dichloroethene	7	BQL	NS	BQL	BQL
Xylenes (Total)	10000	BQL	NS	BQL	BQL
Vinyl chloride	2	BQL	NS	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

NS - Not sampled; well dry or insufficient recharge to sample well

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
September 2002

CONSTITUENT	MCL	WELL SAMPLES			
		GWA-2/MW-2	GWC-3/MW-3	GWB-4/MW-4	GWC-11/MW-11
Metals¹					
Barium	2	BQL	BQL	0.021	0.020
Zinc	NA	BQL	BQL	BQL	BQL
Organics²					
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	75	BQL	BQL	BQL	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL
Trichlorofluoromethane	NA	BQL	BQL	BQL	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #2
Summary of Detected Parameters
July 2002

CONSTITUENT	MCL	WELL SAMPLES			
		GWA-2/MW-2	GWC-3/MW-3	GWB-4/MW-4	GWC-11/MW-11
Metals¹					
Barium	2	0.027	BQL	0.021	0.085
Zinc	NA	BQL	BQL	BQL	0.034
Organics²					
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	75	BQL	BQL	BQL	BQL
Methylene chloride	5	BQL	6	6	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL
Trichlorofluoromethane	NA	BQL	BQL	5	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL

BQL - Below quantification level

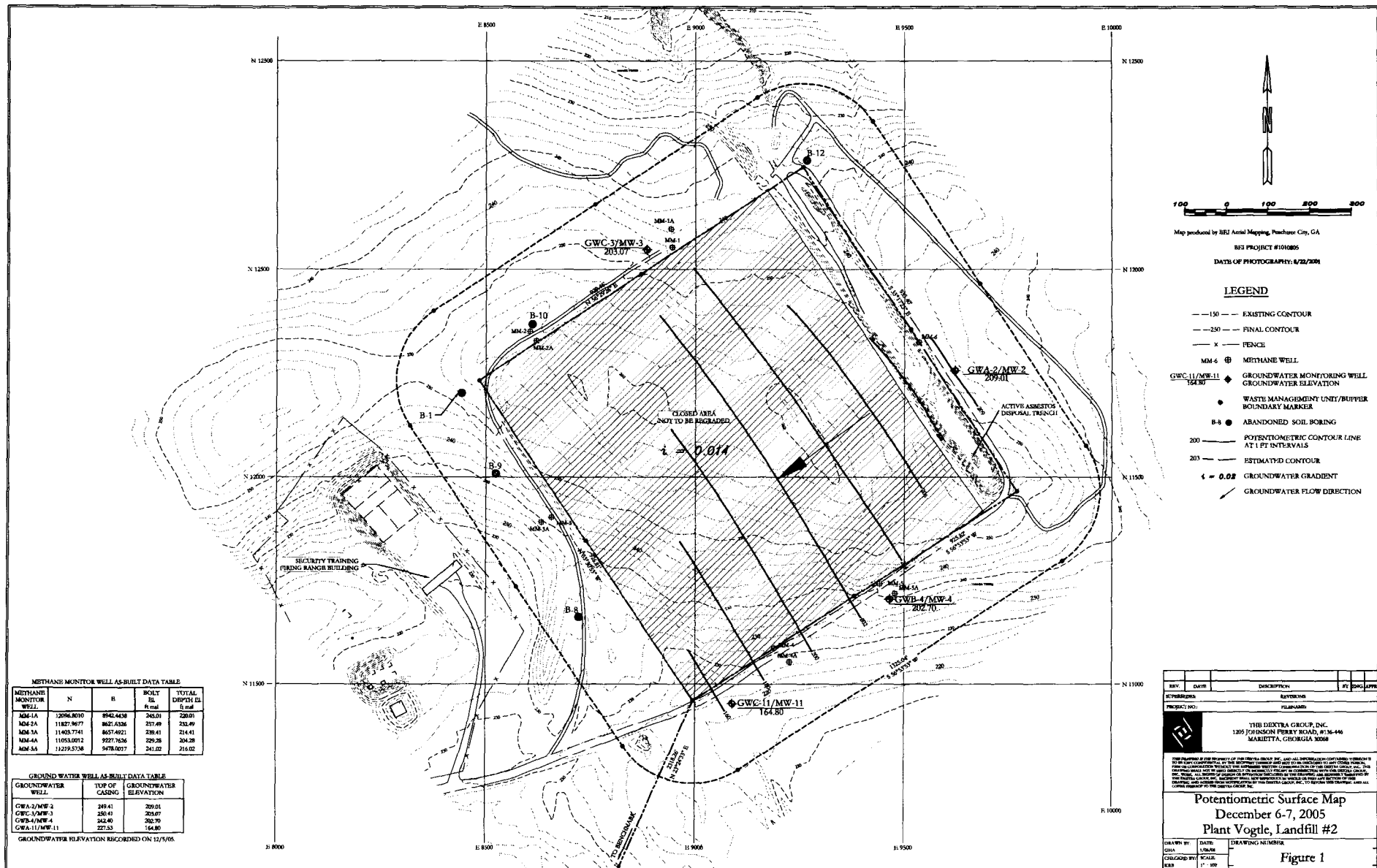
MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L or ppm

²Organics concentrations in ug/l or ppb

Bold indicates detected concentration is greater than the MCL.

FIGURE



APPENDIX A – HYDRAULIC GRADIENT CALCULATION
SHEET

Plant Vogtle Landfill #2
Gradient Calculation
(based on three-point problem)
December 2005 Monitoring Event

<u>Water Table</u>			
<u>Well Designation</u>	<u>Elevation</u>	<u>Northing</u>	<u>Easting</u>
GWA-2/MW-2	209.01	11755.95	9622.59
GWC-3/MW-3	203.07	12048.48	8881.72
GWB-4/MW-4	202.7	11205.40	9466.20

Gradient Calculation from fitting a plane to three points

$$a x_1 + b y_1 + c z_1 + d = 0$$

$$a x_2 + b y_2 + c z_2 + d = 0$$

$$a x_3 + b y_3 + c z_3 + d = 0$$

where (x_i, y_i) are the coordinates of the well and z_i is the head, $i = 1, 2, 3$
The gradient is calculated from the square root of $(a^2 + b^2)$

Southwest Gradient

Wells of Interest = (GWA-2, GWC-3 & GWB-4) (High-Mid-Low)

	x	y	z
GWA-2/MW-2	11755.95	9622.59	209.01
GWC-3/MW-3	12048.48	8881.72	203.07
GWB-4/MW-4	11205.40	9466.20	202.7

$$a = \begin{vmatrix} 9622.59 & 209.01 & 1 \\ 8881.72 & 203.07 & 1 \\ 9466.20 & 202.7 & 1 \end{vmatrix} = 3745.9331$$

$$b = \begin{vmatrix} 11755.95 & 209.01 & 1 \\ 12048.48 & 203.07 & 1 \\ 11205.40 & 202.7 & 1 \end{vmatrix} = -5116.131$$

$$c = \begin{vmatrix} 11755.95 & 9622.59 & 1 \\ 12048.48 & 8881.72 & 1 \\ 11205.40 & 9466.20 & 1 \end{vmatrix} = -453634.7$$

$$d = \begin{vmatrix} 11755.95 & 9622.59 & 209.01 \\ 12048.48 & 8881.72 & 203.07 \\ 11205.40 & 9466.20 & 202.7 \end{vmatrix} = -1546762$$

$$z0 = -3.409707915$$

$$mx = 0.008257597$$

$$my = -0.011278085$$

Southwest Gradient =	0.014
----------------------	-------

APPENDIX B – LABORATORY ANALYTICAL REPORT
DECEMBER 2005

ACL**ADVANCED CHEMISTRY LABS, INC.**

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3039 Armwiler Road • Suite 100 • Atlanta, GA 30360

P.O. Box 88610 • Atlanta, GA 30356

www.advancedchemistrylabs.com**Laboratory Report****ACL Project #: 49406****Client Proj #: Vogtle LF#2****Prepared For:**

The Dextra Group, LLC
4665 Lower Roswell Road
#154
Marietta, GA 30068-0000

Attention: Mr. Kurt Batsel**Report Date: 12/20/2005**

This report contains 24 pages.
(including this cover page and chain of custody)



John Andros
Technical Director

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Client: The Dextra Group, LLC
4665 Lower Roswell Road
#154
Marietta, GA 30068-0000

Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: GWA-2/MW-2

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/13/2005
Analyst: RP

ACL Sample #: 238729 **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethane	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethane	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropane	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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Client: The Dextra Group, LLC
4665 Lower Roswell Road
#154
Marietta, GA 30068-0000

Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: GWC-3/MW-3

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/13/2005
Analyst: RP

ACL Sample #: 238730 **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
1,2,4-Trichlorobenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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Client: The Dextra Group, LLC
 4665 Lower Roswell Road
 #154
 Marietta, GA 30068-0000

Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: GWB-4/MW-4

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/13/2005
Analyst: RP

ACL Sample #: 238731 **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethane	BQL	5			
cis-1,2-Dichloroethane	BQL	5			
trans-1,2-Dichloroethane	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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Client: The Dextra Group, LLC
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Marietta, GA 30068-0000

Client Proj #: Vogtle LF#2
ACL Project #: 48406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: GWC-11/MW-11

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/13/2005
Analyst: RP

ACL Sample #: 238732 **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropane	BQL	5			
trans-1,3-Dichloropropane	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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Client: The Dextra Group, LLC
4665 Lower Roswell Road
#154
Marietta, GA 30068-0000

Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWA-2/MW-2

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

ACL Sample #: 238729 Units: µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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Client Proj #: ----Vogtle-LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWC-3/MW-3

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

Analyst: TM

ACL Sample #: 238730 **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05



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Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWB-4/MW-4

Matrix: Water

Date Sampled: 12/08/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

ACL Sample #: 238731

Units: µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWC-11/MW-11

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted: 12/13/2005
Date Analyzed: 12/14/2005
Analyst: TM

ACL Sample #: 238732 Units: µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWA-2/MW-2

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/13/2005
Analyst: SW

ACL Sample #: 238729 **Units:** mg/L

Analyte	Result	PQL
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	BQL	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	0.080	0.020

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Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWC-3/MW-3

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted:

Date Analyzed: 12/13/2005

ACL Sample #: 238730 Units: mg/L

Analyst: SW

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	0.025	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	0.137	0.020

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ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWB-4/MW-4

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/13/2005
Analyst: SW

ACL Sample #: 238731 **Units:** mg/L

Analyte	Result	PQL
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	0.021	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	0.082	0.020

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ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWC-11/MW-11

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/13/2005
Analyst: SW

ACL Sample #: 238732 **Units:** mg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	BQL	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	0.181	0.020

QUALITY CONTROL

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Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I
SURROGATE PERCENT RECOVERY SUMMARY
Water

ACL Sample #	Dibromofluoromethane (77-137)	1,2-Dichloroethane-d4 (72-138)	Toluene-d8 (84-112)	4-Bromofluorobenzene (77-125)
238729	111	107	104	108
238730	111	105	105	108
238731	112	106	105	107
238732	112	107	105	108

** Matrix Interference
DO=Diluted Out

ACL

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Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted:

Date Analyzed: 12/13/2005

ACL Sample #: **Blank** **Units:** **µg/L**

Analyst: RP

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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GC/MS UNIT # 2

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Sequence Date : 12-13-05

Matrix Spike - Sample No.: 238718-1

19.86

COMPOUND	ADDED (µg/l)	SAMPLE CONCENTRATION (µg/l)	MS CONCENTRATION (µg/l)	MS % REC #	QC. LIMITS REC.
1,1-dichloroethene	20.0	0.0	19.5	97	(54-144)
benzene	20.0	0.0	19.6	98	(82-132)
trichloroethene	20.0	0.0	18.5	92	(73-128)
toluene	20.0	0.0	18.7	93	(83-130)
chlorobenzene	20.0	0.0	18.1	91	(88-123)

COMPOUND	SPIKE ADDED (µg/l)	MSD CONCENTRATION (µg/l)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
1,1-dichloroethene	20.0	19.4	97	1	14	(54-144)
benzene	20.0	19.3	96	2	11	(82-132)
trichloroethene	20.0	18.5	92	0	14	(73-128)
toluene	20.0	18.5	92	1	13	(83-130)
chlorobenzene	20.0	17.8	89	2	13	(88-123)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

Comments: _____



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Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

SURROGATE PERCENT RECOVERY SUMMARY

Water

ACL Sample #	Bromofluorobenzene (40-140)
238729	101
238730	94
238731	96
238732	46

** Matrix Interference
DO=Diluted Out

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Date Received: 12/08/2005
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Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted: 12/13/2005

Date Analyzed: 12/13/2005

Analyst: TM

ACL Sample #: Blank **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

Advanced Chemistry Labs

Outside QC limits

Pesticides Spike Report (SW-846 Method 8011/Method 504.1)

Instrument ID: HP5890A-ECDGC#5

Column: STx-CLP, 30m, 0.53mm, 0.5µm

ACL #: LCSW121305

Matrix: Water

Extraction Date: 12/13/05

Analysis Date: 12/13/05

Initial Volume: 35.0 ml

Final Volume: 2

Dilution Factor: 1

Unit: µg/L or ppb

Pesticide	R.T.	Spike	Sample	MS	MS	R.T.	MSD	MSD	RPD	QC Limits		
	MS	Added	Result	Conc.	Rec. (%)	MSD	Conc.	Rec. (%)	(%)	RPD	% Recovery	
EDB	6.091	0.500	0.000	0.442	88	6.089	0.443	89	0	25	60	140
TCP	8.770	0.500	0.000	0.500	100	8.767	0.482	96	4	25	60	140
DBCP	12.104	0.500	0.000	0.421	84	12.108	0.386	77	9	25	60	140

Outside QC limits



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Client Proj #: Vogtle LF#2
ACL Project #: 49406
Date Received: 12/08/2005
Date Reported: 12/20/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted:

Date Analyzed: 12/13/2005

Analyst: SW

ACL Sample #: **Blank** **Units:** **mg/L**

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	BQL	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	BQL	0.020

ADVANCED CHEMISTRY LABS, INC.

ICP Metals
Water LCS/LCSD Recoveries

Instrument : TJA 61E Trace ICP
Date Digested : 12/12/05
Date Analyzed : 12/13/05
ACL Sample No. : LCS/LCSD-1 120905

ANALYTE	SPIKE Added (ppm)	Blank Result (ppm)	LCS Result (ppm)	LCS Recovery (%) #	LCSD Result (ppm)	LCSD Recovery (%) #	RPD #	QC Limits		
								RPD	% Recovery	
Aluminum	1.000	BRL	0.9712	97.1	0.9570	95.7	1.5	20	75	125
Antimony	0.040	BRL	0.0354	88.5	0.0355	88.8	0.3	20	75	125
Arsenic	0.200	BRL	0.1948	97.4	0.1949	97.5	0.1	20	75	125
Barium	1.000	BRL	0.9918	99.2	0.9781	97.8	1.4	20	75	125
Beryllium	0.200	BRL	0.2040	102.0	0.2011	100.6	1.4	20	75	125
Cadmium	0.050	BRL	0.0510	102.0	0.0507	101.4	0.6	20	75	125
Calcium	1.000	BRL	1.0170	101.7	0.9970	99.7	2.0	20	75	125
Chromium	0.200	BRL	0.2061	103.1	0.2039	102.0	1.1	20	75	125
Cobalt	0.200	BRL	0.2058	102.8	0.2030	101.5	1.3	20	75	125
Copper	0.200	BRL	0.2045	102.3	0.2014	100.7	1.5	20	75	125
Iron	0.250	BRL	0.2354	94.2	0.2259	90.4	4.1	20	75	125
Lead	0.200	BRL	0.2070	103.5	0.2049	102.5	1.0	20	75	125
Magnesium	0.200	BRL	0.1974	98.7	0.1945	97.3	1.5	20	75	125
Molybdenum	1.000	BRL	1.0470	104.7	1.0370	103.7	1.0	20	75	125
Nickel	0.200	BRL	0.2052	102.6	0.2027	101.4	1.2	20	75	125
Selenium	0.050	BRL	0.0502	100.4	0.0483	96.6	3.9	20	75	125
Silver	0.020	BRL	0.0225	112.5	0.0222	111.0	1.3	20	75	125
Tin	2.000	BRL	2.0390	102.0	2.0190	101.0	1.0	20	75	125
Thallium	0.040	BRL	0.0440	110.0	0.0441	110.3	0.2	20	75	125
Vanadium	0.500	BRL	0.5111	102.2	0.5055	101.1	1.1	20	75	125
Zinc	0.200	BRL	0.2118	105.9	0.2100	105.0	0.9	20	75	125

BRL denotes results 'Below Reporting Level'

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 21 outside limits

Rec. %: 0 out of 42 outside limits

Comments :

ACL

ADVANC

CHEMISTRY LABS, INC.

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APPENDIX C – STATISTICAL ANALYSES

Concentrations (mg/L)

Parameter: Barium

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total Samples: 37

Total Non-Detect: 18

Percent Non-Detects: 48.6486%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-2/MW-2	10	7 (70%)	7/30/2002	0.027	0.027
			9/24/2002	ND<0.02	ND<0.02
			10/21/2002	ND<0.02	ND<0.02
			12/4/2002	0.015	0.015
			6/25/2003	ND<0.02	ND<0.02
			12/17/2003	ND<0.02	ND<0.02
			6/16/2004	ND<0.02	ND<0.02
			12/28/2004	ND<0.02	ND<0.02
			6/14/2005	0.021	0.021
			12/6/2005	ND<0.02	ND<0.02

There are 3 compliance wells

Well	Samples	ND	Date	Result	Original
GWB-4/MW-4	10	3 (30%)	7/30/2002	0.021	0.021
			9/24/2002	0.021	0.021
			10/21/2002	0.021	0.021
			12/4/2002 ~	0.0205	0.0205
			6/25/2003	ND<0.02	ND<0.02
			12/17/2003	ND<0.02	ND<0.02
			6/16/2004	ND<0.02	ND<0.02
			12/28/2004	0.021	0.021
			6/14/2005	0.042	0.042
			12/6/2005	0.021	0.021
GWC-11/MW-1110		4 (40%)	7/30/2002	0.085	0.085
			9/24/2002	0.02	0.02
			10/21/2002	0.025	0.025
			12/4/2002	0.018	0.018
			6/25/2003	ND<0.02	ND<0.02
			12/17/2003	0.022	0.022
			6/16/2004	ND<0.02	ND<0.02
			12/28/2004	ND<0.02	ND<0.02
			6/14/2005	0.034	0.034
			12/6/2005	ND<0.02	ND<0.02
GWC-3/MW-3	7	4 (57.1429%)	7/30/2002	ND<0.02	ND<0.02
			9/24/2002	ND<0.02	ND<0.02
			12/4/2002	0.02	0.02
			12/17/2003	ND<0.02	ND<0.02
			6/16/2004	0.02	0.02
			6/14/2005	ND<0.02	ND<0.02
			12/6/2005	0.025	0.025

There is 1 unused well

Well	Samples	ND	Date	Result	Original
EQ-Blank	4	4 (100%)	6/25/2003	ND<0.02	ND<0.02
			12/17/2003	ND<0.02	ND<0.02
			6/16/2004	ND<0.02	ND<0.02
			12/28/2004	ND<0.02	ND<0.02

Shapiro-Francia Test of Normality

Parameter: Barium

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total Sample Size = 37

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	0.015	-1.94314	3.77578	-0.029147
2	0.018	-1.62576	6.41888	-0.0584108
3	0.02	-1.41865	8.43145	-0.0867838
4	0.02	-1.25357	10.0029	-0.111855
5	0.02	-1.12168	11.261	-0.134289
6	0.02	-1.00687	12.2748	-0.154426
7	0.02	-0.900227	13.0852	-0.172431
8	0.02	-0.806422	13.7355	-0.188559
9	0.02	-0.719228	14.2528	-0.202944
10	0.02	-0.634124	14.6549	-0.215626
11	0.02	-0.556308	14.9644	-0.226752
12	0.02	-0.481728	15.1965	-0.236387
13	0.02	-0.40701	15.3621	-0.244527
14	0.02	-0.337155	15.4758	-0.25127
15	0.02	-0.268908	15.5481	-0.256648
16	0.02	-0.199336	15.5879	-0.260635
17	0.02	-0.133244	15.6056	-0.2633
18	0.02	-0.0677301	15.6102	-0.264654
19	0.02	0	15.6102	-0.264654
20	0.02	0.0677301	15.6148	-0.2633
21	0.02	0.133244	15.6325	-0.260635
22	0.02	0.199336	15.6723	-0.256648
23	0.02	0.268908	15.7446	-0.25127
24	0.0205	0.337155	15.8583	-0.244358
25	0.021	0.40701	16.0239	-0.235811
26	0.021	0.481728	16.256	-0.225695
27	0.021	0.556308	16.5655	-0.214012
28	0.021	0.634124	16.9676	-0.200696
29	0.021	0.719228	17.4849	-0.185592
30	0.021	0.806422	18.1352	-0.168657
31	0.022	0.900227	18.9456	-0.148852
32	0.025	1.00687	19.9594	-0.12368
33	0.025	1.12168	21.2175	-0.0956386
34	0.027	1.25357	22.789	-0.0617923
35	0.034	1.41865	24.8015	-0.0135581
36	0.042	1.62576	27.4446	0.0547239

Sample Standard Deviation = 0.0113741

Numerator = 0.00299471

Denominator = 0.127818 = 36 27.4446

W Statistic = 0.0234295

5% Critical value of 0.953 exceeds 0.0234295

Evidence of non-normality at 95% level of significance

1% Critical value of 0.935 exceeds 0.0234295

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: Barium

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-2/MW-2	7/30/2002	0.027	34
	9/24/2002	ND<0.02	9.5
	10/21/2002	ND<0.02	9.5
	12/4/2002	0.015	19
	6/25/2003	ND<0.02	9.5
	12/17/2003	ND<0.02	9.5
	6/16/2004	ND<0.02	9.5
	12/28/2004	ND<0.02	9.5
	6/14/2005	0.021	25
	12/6/2005	ND<0.02	9.5

Rank Sum = 144.5

Rank Mean = 14.45

Background Rank Sum = 144.5

Background Rank Mean = 14.45

Compliance Wells

Well ID	Date	Result	Rank
GWB-4/MW-4	7/30/2002	0.021	26
	9/24/2002	0.021	27
	10/21/2002	0.021	28
	12/4/2002 ~	0.0205	24
	6/25/2003	ND<0.02	9.5
	12/17/2003	ND<0.02	9.5
	6/16/2004	ND<0.02	9.5
	12/28/2004	0.021	29
	6/14/2005	0.042	36
GWC-11/MW-11	7/30/2002	0.085	37
	9/24/2002	0.02	21
	10/21/2002	0.025	32
	12/4/2002	0.018	20
	6/25/2003	ND<0.02	9.5
	12/17/2003	0.022	31
	6/16/2004	ND<0.02	9.5
	12/28/2004	ND<0.02	9.5
	6/14/2005	0.034	35
	12/6/2005	ND<0.02	9.5

Rank Sum = 228.5

Rank Mean = 22.85

GWB-4/MW-4	7/30/2002	0.021	26
	9/24/2002	0.021	27
	10/21/2002	0.021	28
	12/4/2002 ~	0.0205	24
	6/25/2003	ND<0.02	9.5
	12/17/2003	ND<0.02	9.5
	6/16/2004	ND<0.02	9.5
	12/28/2004	0.021	29
	6/14/2005	0.042	36
GWC-11/MW-11	7/30/2002	0.085	37
	9/24/2002	0.02	21
	10/21/2002	0.025	32
	12/4/2002	0.018	20
	6/25/2003	ND<0.02	9.5
	12/17/2003	0.022	31
	6/16/2004	ND<0.02	9.5
	12/28/2004	ND<0.02	9.5
	6/14/2005	0.034	35
	12/6/2005	ND<0.02	9.5

Rank Sum = 214

Rank Mean = 21.4

GWC-3/MW-3	7/30/2002	ND<0.02	9.5
	9/24/2002	ND<0.02	9.5
	12/4/2002	0.02	22
	12/17/2003	ND<0.02	9.5
	6/16/2004	0.02	23
	6/14/2005	ND<0.02	9.5
	12/6/2005	0.025	33

Rank Sum = 116

Rank Mean = 16.5714

Calculation Results:

Kruskal-Wallis H Statistic = 3.87598

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 4.37897

95% Confidence comparison value is 7.81472 at 3 degrees of freedom

3.87598 < 7.81472 indicating no significant group difference at 5% significance level

4.37897 < 7.81472 indicating no significant group difference at 5% significance level when adjusted for ties

Concentrations (mg/L)

Parameter: Zinc

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total Samples: 37

Total Non-Detect: 28

Percent Non-Detects: 75.6757%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-2/MW-2	10	9 (90%)	7/30/2002	ND<0.02	ND<0.02
			9/24/2002	ND<0.02	ND<0.02
			10/21/2002	ND<0.02	ND<0.02
			12/4/2002	ND<0.02	ND<0.02
			6/25/2003	ND<0.02	ND<0.02
			12/17/2003	ND<0.02	ND<0.02
			6/16/2004	ND<0.02	ND<0.02
			12/28/2004	ND<0.02	ND<0.02
			6/14/2005	ND<0.02	ND<0.02
			12/6/2005	0.08	0.08

There are 3 compliance wells

Well	Samples	ND	Date	Result	Original
GWB-4/MW-4	10	8 (80%)	7/30/2002	ND<0.02	ND<0.02
			9/24/2002	ND<0.02	ND<0.02
			10/21/2002	ND<0.02	ND<0.02
			12/4/2002 ~	ND<0.02	ND<0.02
			6/25/2003	ND<0.02	ND<0.02
			12/17/2003	ND<0.02	ND<0.02
			6/16/2004	ND<0.02	ND<0.02
			12/28/2004	ND<0.02	ND<0.02
			6/14/2005	0.029	0.029
			12/6/2005	0.082	0.082
GWC-11/MW-1110		6 (60%)	7/30/2002	0.034	0.034
			9/24/2002	ND<0.02	ND<0.02
			10/21/2002	ND<0.02	ND<0.02
			12/4/2002	ND<0.02	ND<0.02
			6/25/2003	0.029	0.029
			12/17/2003	ND<0.02	ND<0.02
			6/16/2004	ND<0.02	ND<0.02
			12/28/2004	ND<0.02	ND<0.02
			6/14/2005	0.025	0.025
			12/6/2005	0.181	0.181
GWC-3/MW-3	7	5 (71.4286%)	7/30/2002	ND<0.02	ND<0.02
			9/24/2002	ND<0.02	ND<0.02
			12/4/2002	0.047	0.047
			12/17/2003	ND<0.02	ND<0.02
			6/16/2004	ND<0.02	ND<0.02
			6/14/2005	ND<0.02	ND<0.02
			12/6/2005	0.137	0.137

There is 1 unused well

Well	Samples	ND	Date	Result	Original
EQ-Blank	4	4 (100%)	6/25/2003	ND<0.02	ND<0.02
			12/17/2003	ND<0.02	ND<0.02
			6/16/2004	ND<0.02	ND<0.02
			12/28/2004	ND<0.02	ND<0.02

Shapiro-Francia Test of Normality

Parameter: Zinc

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total Sample Size = 37

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	0.02	-1.94314	3.77578	-0.0388627
2	0.02	-1.62576	6.41888	-0.071378
3	0.02	-1.41865	8.43145	-0.099751
4	0.02	-1.25357	10.0029	-0.124822
5	0.02	-1.12168	11.261	-0.147256
6	0.02	-1.00687	12.2748	-0.167393
7	0.02	-0.900227	13.0852	-0.185398
8	0.02	-0.806422	13.7355	-0.201526
9	0.02	-0.719228	14.2528	-0.215911
10	0.02	-0.634124	14.6549	-0.228593
11	0.02	-0.556308	14.9644	-0.239719
12	0.02	-0.481728	15.1965	-0.249354
13	0.02	-0.40701	15.3621	-0.257494
14	0.02	-0.337155	15.4758	-0.264237
15	0.02	-0.268908	15.5481	-0.269615
16	0.02	-0.199336	15.5879	-0.273602
17	0.02	-0.133244	15.6056	-0.276267
18	0.02	-0.0677301	15.6102	-0.277622
19	0.02	0	15.6102	-0.277622
20	0.02	0.0677301	15.6148	-0.276267
21	0.02	0.133244	15.6325	-0.273602
22	0.02	0.199336	15.6723	-0.269615
23	0.02	0.268908	15.7446	-0.264237
24	0.02	0.337155	15.8583	-0.257494
25	0.02	0.40701	16.0239	-0.249354
26	0.02	0.481728	16.256	-0.239719
27	0.02	0.556308	16.5655	-0.228593
28	0.02	0.634124	16.9676	-0.215911
29	0.025	0.719228	17.4849	-0.19793
30	0.029	0.806422	18.1352	-0.174544
31	0.029	0.900227	18.9456	-0.148437
32	0.034	1.00687	19.9594	-0.114204
33	0.047	1.12168	21.2175	-0.0614849
34	0.08	1.25357	22.789	0.0388003
35	0.082	1.41865	24.8015	0.15513
36	0.137	1.62576	27.4446	0.377859

Sample Standard Deviation = 0.0342974

Numerator = 0.142778

Denominator = 1.1622 = 36 27.4446

W Statistic = 0.122851

5% Critical value of 0.953 exceeds 0.122851

Evidence of non-normality at 95% level of significance

1% Critical value of 0.935 exceeds 0.122851

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: Zinc

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-2/MW-2	7/30/2002	ND<0.02	14.5
	9/24/2002	ND<0.02	14.5
	10/21/2002	ND<0.02	14.5
	12/4/2002	ND<0.02	14.5
	6/25/2003	ND<0.02	14.5
	12/17/2003	ND<0.02	14.5
	6/16/2004	ND<0.02	14.5
	12/28/2004	ND<0.02	14.5
	6/14/2005	ND<0.02	14.5
	12/6/2005	0.08	34

Rank Sum = 164.5

Rank Mean = 16.45

Background Rank Sum = 164.5

Background Rank Mean = 16.45

Compliance Wells

Well ID	Date	Result	Rank
GWB-4/MW-4	7/30/2002	ND<0.02	14.5
	9/24/2002	ND<0.02	14.5
	10/21/2002	ND<0.02	14.5
	12/4/2002 ~	ND<0.02	14.5
	6/25/2003	ND<0.02	14.5
	12/17/2003	ND<0.02	14.5
	6/16/2004	ND<0.02	14.5
	12/28/2004	ND<0.02	14.5
	6/14/2005	0.029	30
GWC-11/MW-11	7/30/2002	0.034	32
	9/24/2002	ND<0.02	14.5
GWC-11/MW-11	10/21/2002	ND<0.02	14.5
	12/4/2002	ND<0.02	14.5
	6/25/2003	0.029	31
	12/17/2003	ND<0.02	14.5
	6/16/2004	ND<0.02	14.5
	12/28/2004	ND<0.02	14.5
	6/14/2005	0.025	29
	12/6/2005	0.181	37

Rank Sum = 181

Rank Mean = 18.1

GWC-11/MW-11	7/30/2002	0.034	32
	9/24/2002	ND<0.02	14.5
	10/21/2002	ND<0.02	14.5
	12/4/2002	ND<0.02	14.5
	6/25/2003	0.029	31
	12/17/2003	ND<0.02	14.5
	6/16/2004	ND<0.02	14.5
	12/28/2004	ND<0.02	14.5
	6/14/2005	0.025	29
GWC-11/MW-11	7/30/2002	0.034	32
	9/24/2002	ND<0.02	14.5
GWC-11/MW-11	10/21/2002	ND<0.02	14.5
	12/4/2002	ND<0.02	14.5
	6/25/2003	0.029	31
	12/17/2003	ND<0.02	14.5
	6/16/2004	ND<0.02	14.5
	12/28/2004	ND<0.02	14.5
	6/14/2005	0.025	29
	12/6/2005	0.181	37

Rank Sum = 216

Rank Mean = 21.6

GWC-3/MW-3	7/30/2002	ND<0.02	14.5
	9/24/2002	ND<0.02	14.5
	12/4/2002	0.047	33
	12/17/2003	ND<0.02	14.5
	6/16/2004	ND<0.02	14.5
	6/14/2005	ND<0.02	14.5
	12/6/2005	0.137	36

Rank Sum = 141.5

Rank Mean = 20.2143

Calculation Results:

Kruskal-Wallis H Statistic = 1.28916

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 2.27422

95% Confidence comparison value is 7.81472 at 3 degrees of freedom

1.28916 < 7.81472 indicating no significant group difference at 5% significance level

2.27422 < 7.81472 indicating no significant group difference at 5% significance level when adjusted for ties

**GROUNDWATER MONITORING REPORT
PLANT VOGTLE LANDFILL #3
SOLID WASTE PERMIT NO. 017-007D(L)(I)
BURKE COUNTY, GEORGIA
APRIL 2006**

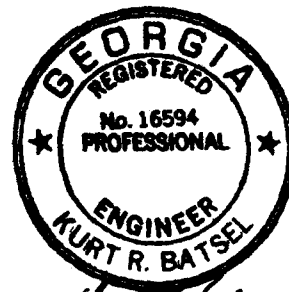
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40 Inverness Center Parkway
Birmingham, Alabama 35201

PREPARED BY:



Kurt R. Batsel, P.E.
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Marietta, Georgia 30068



K.R. Batsel
4/6/06

**GROUNDWATER MONITORING REPORT
PLANT VOGTLE LANDFILL #3
SOLID WASTE PERMIT No. 017-007D(L)(I)
BURKE COUNTY, GEORGIA
APRIL 2006**

PREPARED FOR:

Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
Birmingham, Alabama 35201

PREPARED BY:



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- 3 – Constituents for Detection Monitoring
- 4 – Summary of Detected Parameters

Figures

- 1 – Groundwater Contour Elevation Map, December 5, 2005

Appendices

- A – Hydraulic Gradient Calculation Sheets
- B – Laboratory Analytical Reports
- C – Statistical Analyses

1 – Introduction

This report presents the results of groundwater sampling conducted in December 2005 at private solid waste Landfill #3 operated by Southern Nuclear Operating Company, Inc. (SNC) at Plant Vogtle in Waynesboro, Georgia. Groundwater monitoring was initiated in 2002 in accordance with the approved Groundwater Monitoring Plan for the landfill. The landfill is operated under Solid Waste Permit #017-007D(L)(I) and used for disposal of non-putrescible, non-liquid office and solid waste as well as construction/demolition debris such as asbestos insulation, wooden pallets and concrete. Landfill #3, permitted in 1987, has been utilized solely for construction and demolition debris disposal since 1992.

Sampling, analyses and data evaluation were conducted in accordance with the rules of the Georgia Department of Natural Resources Environmental Protection Division (EPD), Chapter 391-3-4, the September 1991 “Manual for Groundwater Monitoring” and the approved Groundwater Monitoring Plan for the landfill.

The findings of the initial four sampling events, conducted from August 2002 through December 2002, and subsequent semi-annual sampling events are presented in reports previously submitted to the EPD. This report presents the results of the December 2005 semi-annual monitoring event. Subsequent reports will be prepared upon completion of semi-annual monitoring events as scheduled in the Groundwater Monitoring Plan.

2 – Monitoring Well Network

The groundwater monitoring well network consists of nine permanent monitoring wells located along the perimeter of the waste management unit boundary of Landfill #3 (*Figure 1*). As shown in the figure, the wells are located outside of, but as close as practical to, the waste disposal areas. The wells are screened within the uppermost water-producing zones underlying the landfill, which occur from approximately 30 to 80 feet below land surface at Landfill #3.

The nine permanent groundwater monitoring wells at Landfill #3 were installed in September 2001, July 2002 and June 2005. The well construction details are presented in *Table 1*. As noted in the table, well GWC-16 has been dry during each groundwater monitoring event. Wells GWA-7/MW-7 and GWA-15/MW-15 are located at the south and southwest portions of the landfill boundary. Wells GWC-5/MW-5, GWC-13/MW-13 and GWC-14/MW-14 are located along the eastern portion of the landfill boundary, and wells GWB-6/MW-6 and GWB-16/MW-16 are located along the northern landfill boundary. Wells GWC-17/MW-17 and GWC-18/MW-18 were recently installed at the southeast corner of the landfill as part of the contamination assessment program at Landfill #3. Well GWA-7/MW-7 was initially treated as a compliance (downgradient) well for Landfill #3. However, due to review of water level measurements showing this well to be side gradient from the active fill area of the landfill, well GWA-7/MW-7 was evaluated as a background well in the monitoring reports from the June 2003 and December 2003 sampling events. Based on the consistent detection of trichlorofluoromethane and the June 2004 detection of trichloroethene in Well GWA-7/MW-7, it was decided to return to evaluating this well as a compliance well. This approach was used in this monitoring report. The most appropriate designation for this well will continue to be evaluated in light of future monitoring results. For this report, well GWA-15/MW-15 is the designated background well, and the remaining wells are designated compliance wells. The wells will be referred to as GWC-5, GWB-6, GWA-7, GWC-13, GWC-14, GWA-15, GWB-16, GWC-17 and GWC-18 in this report in accordance with the EPD’s well identification guidelines.

Two stormwater sediment ponds were completed in 2004 in accordance with the approved Design and Operational Plan for the Vogtle Landfill #3. As there was no discharge from either pond at the time of the December 2005 groundwater monitoring event, no surface water samples were collected from the surface water monitoring stations located at the pond outfalls.

3 – Groundwater Flow Rate and Directional Data

3.1 Geology/Hydrogeology

The geology of the Plant Vogtle site consists of sedimentary deposits within the Coastal Plain physiographic province of Georgia. These sediments consist of unconsolidated sands, silts and clays comprised of marine and non-marine fluvial deposits. Marls and limestone were also encountered at depth in deep borings completed at the landfill. The marls encountered during drilling were components of the Irwinton Sand member. Either all or parts of the Barnwell Group members (except the Utley Limestone member) were also encountered in the other borings conducted at the landfill. Underlying the Barnwell Group is the Lisbon Formation with its uppermost unit, the Blue Bluff Marl, located immediately under the Utley Limestone. This marl layer, approximately 70 feet thick, is a near-impermeable layer that effectively confines the Tertiary and Cretaceous aquifers, the two confined aquifers beneath the Plant site.

The occurrence of groundwater underlying the landfill appears in confined, semi-confined, unconfined, and perched hydrogeologic units. Groundwater is found primarily in sands, silty sands, clayey sands and marl limestone interfaces. The main difference between boring/well water production characteristics and aquifer confining characteristics appears to be the thickness of the water-producing zone, the grain size of the sand component, the sand/clay ratio and the characteristics of the marl/limestone interface.

Groundwater may also exist in an unconfined water table aquifer in the Barnwell sands and limestone that overlie the marl. The water table aquifer at the site is on an interfluvial ridge, or a topographically high area in which the groundwater in the water table discharges along streams that surround the topographic high. The streams eventually discharge to the Savannah River.

3.2 Groundwater Elevations and Gradients

During well installation, the occurrence of groundwater was determined by collecting continuous split spoon samples beginning approximately five feet above the location of expected groundwater-producing zones. At both landfill, groundwater was generally found in water producing zones less than one foot thick and was observed to be under semi-confined or confined conditions.

Upon completion of all drilling activities, measuring points were located on the tops of the well casings and surveyed relative to mean sea level (msl). During each sampling event, depth to water measurements were recorded in the wells from the surveyed elevations using an electronic water-level indicator. The water level measurements were then subtracted from the appropriate measuring point elevations to determine groundwater elevations in the wells.

Hydraulic conductivity (K) in the wells was measured on September 26, 2001. The values ranged from 5.634×10^{-4} cm/sec in GWB-6 to 3.064×10^{-2} cm/sec in GWA-2.

Depth to water measurements and groundwater elevations for the wells at Landfill #3 are presented in *Table 1*. Groundwater elevations measured to date indicate that the groundwater elevation, or hydraulic 'head,' is greatest beneath the center area of the landfill, and decreases to the southeast, to

the northeast and to the west-southwest beneath the landfill. This mounding effect is believed to be the result of natural infiltration in the sandy soils within the historic topographically high area in the center of the landfill. This topographically high area, which encompasses a broad area within the landfill, is a natural site feature that was present prior to any landfilling operations. *Figure 1* shows the topography of the landfill.

As discussed previously, the water-bearing stratigraphy beneath Landfill #3 is composed of individual saturated sand units within a clayey/marl matrix. These units may or may not be interconnected. As such, groundwater elevations in the monitoring wells may reflect head in multiple perched layers and may not represent groundwater 'flow' direction beneath the landfill. *Figure 2* presents a map depicting the saturated head contours measured on December 5, 2005.

Monitoring well GWA-15 is the well most representative of background water quality at the site because of the distance between the well and the current landfilled area, and the location of the area of relatively higher head located between the well and the current landfilled area on the eastern portion of the site. This well is therefore used as a background well to evaluate groundwater quality at the landfill. Well GWA-7 is now evaluated as a downgradient well based on review of the groundwater elevation and chemical analysis data collected since 2002.

The hydraulic gradient was calculated using a three-point problem from groundwater elevations in the monitoring wells as follows for each main direction of head difference:

Southwest: GWA-6, GWA-7 and GWA-15;
Northeast: GWC-13, GWA-6 and GWC-5; and
Southeast: GWC-13, GWA-7 and GWC-14.

The calculated hydraulic gradients are presented on the contour map (*Figure 1*). The calculations used in determining the gradients are provided in *Appendix A*. For the December 2005 event, the southwest gradient was 0.015, the northeast gradient was 0.08, and the southeast gradient was 0.12. The southwest gradient has typically been 0.01, with a maximum of 0.02 (June 2003), reflecting the consistently flattest gradient across the landfill. The northeast trending gradient has ranged from a minimum of 0.08 (October and December 2002, June 2004) to a maximum of 0.17 (June 2003). The southeast gradient has ranged from a low of 0.06 (December 2002) to a maximum of 0.16 (June 2003). For this monitoring event, the steepest gradient was observed in the southeast flow component.

4 – Sampling Procedures and Parameter Analyses

4.1 Procedures and Field Measurements

Prior to sample collection during each sampling event, depth to water measurements are recorded in each well from the surveyed elevations using an electronic water level indicator. The water level indicator is decontaminated using a potable water and Alconox® wash and a distilled water rinse between use at each well. The water level measurements are then subtracted from the appropriate measuring point elevations to determine the groundwater elevations in the wells.

Groundwater samples were collected from all monitoring wells after the wells were properly purged according to the EPA document entitled "Low-Flow Purging & Sampling of Groundwater Monitoring Wells (Bulletin QAD023)". The wells were purged and sampled using QED SamplePro pumps equipped with Teflon® bladders. Purge rates were matched to the recovery rates of the wells, verified by periodic depth to water measurements to determine draw-down during purging. Purging was conducted until at least three consecutive stable readings of pH, conductivity, and turbidity were

recorded. Groundwater samples were then collected directly into pre-preserved sample containers supplied by the laboratory. Final measurements of pH, conductivity, and turbidity were performed to verify that these parameters remained stable during sampling. All field instruments were calibrated in the field daily prior to use and at the conclusion of each sampling event. The field measurements are provided in *Table 2*.

After each sample was collected, the SamplePro pumps and airlines were decontaminated according to the following protocol:

- The pump and air line were placed on clean plastic;
- The pump was disassembled and the bladder was removed;
- The pump was sprayed with a potable water and Alconox® solution, followed with a distilled water rinse until all soap residue was removed;
- A new pump bladder was then installed in the pump prior to reassembly; and
- The pump airline was placed in a clean plastic bag between use at each well.

4.2 Parameter Analyses

In accordance with the approved Groundwater Monitoring Plan, the groundwater samples and field and laboratory quality assurance/quality control (QA/QC) samples were analyzed for the Chapter 391-3-4 Appendix I list of parameters, which consists of total metals and volatile organic compounds (*Table 5*). The field QA/QC samples consisted of duplicate samples, trip blanks and equipment blanks. Metals analyses were conducted using EPA Methods 6010B/7841, and VOCs analyses were conducted using EPA Methods 6010B/8260B and 504.1 to provide sufficiently sensitive quantitation limits for comparison with maximum contaminant limits. Advanced Chemistry Labs, Inc., Atlanta, Georgia performed the laboratory analyses. The complete laboratory analytical reports, which include field and laboratory QA/QC results and chain-of-custody forms, are provided in *Appendix B*.

Samples were also collected for the Chapter 391-3-4 Appendix II parameter mercury in all wells due to this parameter's detection in previous assessment monitoring conducted at the landfill. Full Appendix II analysis was performed for well GWA-7 during the December 2005 event.

5 – Groundwater Quality Evaluation

5.1 Detected Parameters

Table 4 presents a summary of all analyzed parameters detected above the laboratory method reporting limits. Barium was detected at concentrations below the MCL in well GWA-7 (0.024 mg/l), the replicate sample from well GWA-7 (0.022 mg/l) and in well GWC-13 (0.044 mg/l). Zinc was detected in well GWC-5 at 0.055 mg/l, in well GWC-6 at 0.020 mg/l, in well GWA-7 at 0.068 mg/l, in the replicate sample well GWA-7 at 0.217 mg/l, in well GWC-13 at 0.194 mg/l, in well GWA-15 at 0.042 mg/l and in well GWC-17 at 0.096 mg/l; there is no MCL for zinc. In the compliance well GWA-7 the VOC trichlorofluoromethane was detected at 88 ug/l, and at 85 ug/l in the replicate sample well GWA-7; there is no MCL for trichlorofluoromethane. In the compliance well GWC-13, 1,1-dichloroethane, chlorobenzene, cis-1,2-dichloroethene, trichlorofluoromethane, vinyl chloride, benzene and trichloroethene were detected at low levels. All VOC concentrations in GWC-13 were below applicable MCLs, except for benzene and trichloroethene which were detected at concentrations equal to the respective MCLs of 5 ug/l. The Appendix II parameter naphthalene was detected in well GWA-7 at 5 ug/l; however, this constituent was not detected in the duplicate sample from well GWA-7.

No parameters were detected in any of the field or laboratory QA/QC samples, and the laboratory QA/QC checks were within acceptable limits.

5.2 Statistical Analyses

In accordance with the approved Groundwater Monitoring Plan, statistical analyses were conducted for each constituent detected in the compliance well samples for this sampling event. The analyses were conducted to help identify any significant increase in constituent concentrations in downgradient, or compliance, well samples over samples representative of background water quality. The analyses were conducted consistent with U.S. EPA recommended methods as detailed in the guidance document “Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Interim Final Guidelines” (1989) and the corresponding Addendum (1992).

The following methodology was used to evaluate the data:

- The distribution of the data was first evaluated for normality using either the Shapiro-Wilkes Test (for parameters with less than 50 samples) or the Shapiro-Francia Test (for parameters with greater than 50 samples) as recommended in the 1992 EPA guidance. The tests indicate that the concentrations of all detected parameters do not follow normal distributions.
- For the well data sets, the Kruskal-Wallis non-parametric analysis of variance method was used to compare the concentrations of individual parameters in each compliance well to the concentrations of these parameters in the background well. This method is recommended by the 1992 EPA guidance for non-normal sample sets that have between 15% and 90% non-detects.

The detailed statistical analyses are provided in *Appendix C* and the results are summarized below.

At Landfill #3, statistical analysis was performed for the seven detected parameters barium, zinc, 1,1-dichloroethane, chlorobenzene, cis-1,2-dichloroethene, trichlorofluoromethane, vinyl chloride, benzene, and trichloroethene. Compared to background well GWA-15/MW-15, the analyses indicate statistically significant higher concentrations of the following parameters:

- Barium, 1,1-dichloroethane and trichlorofluoromethane in the GWC-13 well samples,
- Trichlorofluoromethane in the GWA-7 well samples, and
- Barium, 1,1-dichloroethane, chlorobenzene and cis-1,2-dichloroethene in the GWC-14 well samples.

It should be noted that the statistical analyses data sets include all sampling events to date for all wells. As a result, statistically higher concentrations of detected parameters in a well are determined based on all reported concentrations (including consideration of non-detects) from all sampling events for that well. If a concentration is lower in the current event for a well, the complete data set for the well may still indicate a statistically higher concentration over the background well data set considering all sampling events to date. For example, although there was no sample available for GWC-14 for this event, the statistical analyses indicate significantly higher concentrations of barium, 1,1-dichloroethane, chlorobenzene and cis-1,2-dichloroethene for the GWC-14 historical sample data set.

6 – Conclusions

Since a statistically significant increase over background is indicated for several analyzed parameters in wells GWA-7, GWC-13 and GWC-14 at Landfill #3, SNC will place a notice in the operating record within 14 days of submittal of this report as required by Chapter 391-3-4. The notice will indicate which constituents have shown statistically significant higher concentrations compared to the background wells.

In the Appendix II parameter sampling during this event, naphthalene was detected at a level of 10 ug/l in one GWA-7 sample, but was not detected in the duplicate sample from GWA-7. Based on the non-detection of naphthalene in the duplicate GWA-7 sample and no prior detections of this constituent in previous Appendix II sampling at the site, no modification to the Appendix II sampling program action is proposed at this time. Based on prior detections of the Appendix II parameter mercury in Landfill #3 wells, SNC will continue to perform analysis for mercury in all Landfill #3 wells during the regular semi-annual sampling events.

TABLES

Table 1
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Groundwater Elevations and Monitoring Well Construction Details

Well ID	Date	Measuring Point Elevation (feet, msl)	Ground Surface Elevation (feet, msl)	Depth to Water (feet, topvc)	Total Boring Depth (feet, bls)	Total Well Depth (feet, topvc)	Riser Height (feet)	Screened Interval (feet, msl)	Groundwater Elevation (feet, msl)
GWC-5/MW-5	9/26/2001	251.96	249.11	48.65	67	56.85	2.85	195.11 to 205.11	203.31
	7/29/2002			50.21					201.75
	9/9/2002			50.43					201.53
	10/21/2002			49.26					202.70
	12/3/2002			49.26					202.70
	6/24/2003			44.60					207.36
	12/16/2003			47.55					204.41
	6/15/2004			47.76					204.20
	12/28/2004			49.13					202.83
	6/13/2005			45.94					206.02
	12/5/2005			48.05					203.91
GWB-6/MW-6	9/26/2001	278.87	276.45	47.47	67	64.42	2.42	214.45 to 224.45	231.40
	7/29/2002			48.52					230.35
	9/9/2002			48.55					230.32
	10/21/2002			49.21					229.66
	12/3/2002			48.86					230.01
	6/24/2003			46.92					231.95
	12/16/2003			46.30					232.57
	6/15/2004			46.49					232.38
	12/28/2004			47.22					231.65
	6/13/2005			47.84					231.03
	12/5/2005			47.20					231.67
GWA-7/MW-7	9/26/2001	261.33	259.39	31.11	50	41.94	1.94	219.39 to 229.39	230.22
	7/29/2002			33.16					228.17
	9/9/2002			33.25					228.08
	10/21/2002			33.20					228.13
	12/3/2002			32.94					228.39
	6/24/2003			27.51					233.82
	12/16/2003			30.59					230.74
	6/15/2004			30.87					230.46
	12/28/2004			32.33					229.00
	6/13/2005			30.64					230.69
	12/5/2005			31.60					229.73

Table 1
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Groundwater Elevations and Monitoring Well Construction Details

Well ID	Date	Measuring Point Elevation (feet, msl)	Ground Surface Elevation (feet, msl)	Depth to Water (feet, topvc)	Total Boring Depth (feet, bls)	Total Well Depth (feet, topvc)	Riser Height (feet)	Screened Interval (feet, msl)	Groundwater Elevation (feet, msl)
GWC-13/MW-13	7/29/2002	273.08	270.99	40.92	50	50.09	2.09	222.99 to 232.99	232.16
	9/9/2002			41.00					232.08
	10/21/2002			40.94					232.14
	12/3/2002			40.48					232.60
	6/24/2003			36.90					236.18
	12/16/2003			39.17					233.91
	6/15/2004			39.59					233.49
	12/28/2004			40.59					232.49
	6/13/2005			38.76					234.32
	12/5/2005			39.93					233.15
GWC-14/MW-14	7/29/2002	262.88	260.66	40.05	55	53.22	2.22	209.66 to 219.66	222.83
	9/9/2002			42.31					220.57
	10/21/2002			42.79					220.09
	12/3/2002			42.35					220.53
	6/24/2003			44.29					218.59
	12/16/2003			51.52					211.36
	6/15/2004			52.11					210.77
	12/28/2004			52.66					210.22
	6/13/2005			51.66					211.22
	12/5/2005			52.56					210.32
GWA-15/MW-15	7/29/2002	268.15	265.34	45.94	55	55.81	2.81	212.34 to 222.34	222.21
	9/9/2002			46.05					222.10
	10/21/2002			46.19					221.96
	12/3/2002			46.23					221.92
	6/24/2003			41.76					226.39
	12/16/2003			43.29					224.86
	6/15/2004			43.24					224.91
	12/28/2004			44.68					223.47
	6/13/2005			40.1					228.05
	12/5/2005			47.39					220.76

Table 1
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Groundwater Elevations and Monitoring Well Construction Details

Well ID	Date	Measuring Point Elevation (feet, msl)	Ground Surface Elevation (feet, msl)	Depth to Water (feet, topvc)	Total Boring Depth (feet, bls)	Total Well Depth (feet, topvc)	Riser Height (feet)	Screened Interval (feet, msl)	Groundwater Elevation (feet, msl)
GWB-16/MW-16	7/29/2002	256.95	254.57	DRY	65	55.38	2.38	201.57 to 211.57	DRY
	9/9/2002			DRY					DRY
	10/21/2002			DRY					DRY
	12/3/2002			DRY					DRY
	6/24/2003			DRY					DRY
	12/16/2003			DRY					DRY
	6/15/2004			DRY					DRY
	12/28/2004			DRY					DRY
	6/13/2005			DRY					DRY
	12/5/2005			DRY					DRY
GWC-17/MW-17	6/13/2005	222.64	220.28	72.82	85	82.00	3.00	141.28 to 151.28	149.82
	12/5/2005			72.6					150.04
GWC-18/MW-18	6/13/2005	227.54	225.03	77.05	80	79.00	3.00	149.03 to 159.03	150.49
	12/5/2005			DRY					DRY

Notes:

Ground surface measured at survey bolt set in concrete pad at base of protective casing.

msl = mean sea level; topvc = measured from top of pvc riser; bls = below land surface

Table 2
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Groundwater Sampling Field Measurements

Well ID	Date	pH	Conductivity ¹	Turbidity ²	Gallons Purged	Odor	Color	Comments
GWC-5/MW-5	9/26/2001	5.11	47.5	28.6	6.0	none	cloudy	Well development only
	7/29/2002	5.41	24.4	2.83	1.75	none	none	
	9/9/2002	8.13	365	4.11	2.0	none	none	
	10/21/2002	--	--	--	--	--	--	
	12/3/2002	5.94	117	7.8	2.0	none	none	Split with GAEPD
	6/24/2003	5.18	29	3.5	6.0	none	none	
	12/16/2003	6.27	210	79.7	3.0	none	cloudy	
	6/16/2004	5.94	40.7	16.5	2.0	none	none	
	12/28/2004	4.96	30	7.33	2.3	none	none	
	6/13/2005	5.86	580	6.2	3.5	none	none	
	12/6/2005	5.48	548	6.03	2.5	none	none	
GWB-6/MW-6	9/26/2001	7.13	242	25.6	2.0	none	--	Well development only
	7/29/2002	6.75	1,338	0.35	1.5	none	none	
	9/9/2002	4.13	198	6.43	1.5	none	none	
	10/21/2002	6.72	573	0.44	2.5	none	none	
	12/3/2002	6.14	116	0.45	1.5	none	none	
	6/24/2003	7.09	155	9.1	1.5	none	none	
	12/17/2003	6.82	126	2.27	1.5	none	none	
	6/16/2004	6.77	178.5	1.25	2.75	none	none	
	12/28/2004	7.05	130	2.84	2.25	none	none	
	6/13/2005	6.88	125	2.67	2.50	none	none	
	12/5/2005	7.10	122	2.22	2.00	none	none	
GWA-7/MW-7	9/26/2001	--	--	cloudy	30.0	--	--	Well development only
	7/29/2002	6.97	251	8.33	2.5	none	none	
	9/9/2002	7.52	327	9.97	5.0	none	none	
	10/21/2002	4.39	92	3.14	2.0	none	none	
	12/3/2002	6.51	188	7.3	2.5	none	none	Turbidity >100 ntu for 2 hours Turbidity 85-100 ntu for 1 hour
	6/24/2003	7.02	163	101.3	4.0	none	dark brown	
	12/16/2003	5.73	62.7	100	4.0	none	mod. brown	
	6/15/2004	5.94	68.9	42.7	2.0	none	none	
	12/28/2004	8.16	109	9.86	3.5	none	none	
	6/14/2005	7.25	275	8.56	3.0	none	none	
	12/6/2005	5.37	92	96	8.5	none	mod. brown	Turbidity >100 ntu for 2 hours

Table 2
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Groundwater Sampling Field Measurements

Well ID	Date	pH	Conductivity ¹	Turbidity ²	Gallons Purged	Odor	Color	Comments
GWC-13/MW-13	7/29/2002	6.52	421	0.66	--			
	9/9/2002	5.96	77.5	6.40	1.0	none	none	
	10/21/2002	6.19	73.4	3.09	2.5	none	none	
	12/3/2002	6.54	481	1.00	2.5	none	none	
	6/24/2003	5.95	271	2.02	2.5	none	none	
	12/16/2003	5.65	294	0.75	6.0	none	none	Split with GAEPD
	6/16/2004	5.84	366	4.70	1.75	none	none	
	12/28/2004	6.09	268	0.38	1.75	none	none	
	6/13/2005	5.75	255	2.00	1.50	none	none	
	12/6/2005	4.03	4.24	1.07	2.50	none	none	
GWC-14/MW-14	7/29/2002	6.49	448	1.15	--	none	none	
	9/9/2002	5.57	717	5.19	--	none	none	
	10/21/2002	6.00	674	4.65	3.2	none	none	
	12/3/2002	5.54	547	2.7	4.5	none	none	
	6/24/2003	5.97	197	3.61	2.5	none	none	
	12/17/2003	--	--	--	--	--	--	Split with GAEPD-VOCs & metals
	6/15/2004	--	--	--	--	--	--	Well Dry
	12/28/2004	--	--	--	--	--	--	Too little water to purge and sample
	6/14/2005	--	--	--	--	--	--	Too little water to purge and sample
	12/6/2005							Too little water to purge and sample
GWA-15/MW-15	7/29/2002	5.70	95.8	1.12	4.0	none	none	
	9/9/2002	5.92	118	8.53	2.5	none	none	
	10/21/2002	5.19	81	1.88	4.5	none	none	
	12/3/2002	7.58	78.2	3.6	2.5	none	none	
	6/24/2003	7.44	48.0	5.38	2.5	none	none	
	12/17/2003	6.93	39.4	4.55	6.5	none	none	Split with GAEPD
	6/15/2004	6.47	55.7	5.59	2.25	none	none	
	12/28/2004	6.83	50.0	8.85	3.00	none	none	
	6/14/2005	7.85	72.0	7.75	4.00	none	none	
	12/5/2005	6.88	56.0	2.3	2.50	none	none	

Table 2
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Groundwater Sampling Field Measurements

Well ID	Date	pH	Conductivity ¹	Turbidity ²	Gallons Purged	Odor	Color	Comments
GWB-16/MW-16	7/29/2002	--	--	--	--	--	--	Well Dry
	9/9/2002	--	--	--	--	--	--	Well Dry
	10/21/2002	--	--	--	--	--	--	Well Dry
	12/3/2002	--	--	--	--	--	--	Well Dry
	6/24/2003	--	--	--	--	--	--	Well Dry
	12/16/2003	--	--	--	--	--	--	Well Dry
	6/15/2004	--	--	--	--	--	--	Well Dry
	12/28/2004	--	--	--	--	--	--	Well Dry
	6/15/2005	--	--	--	--	--	--	Well Dry
	12/6/2005	--	--	--	--	--	--	Well Dry
GWB-17/MW-17	6/15/2005	5.84	77.58	5.29	3.5	none	none	
	12/6/2005	6.33	68	10	3	none	none	
GWB-18/MW-18	6/15/2005	6.67	85.6	8.2	4.2	none	none	
	12/6/2005	--	--	--	--	--	--	Well Dry

Notes:

-- = no data recorded;

/1 - Conductivity in units of umhos/sec

/2 - Turbidity in units of NTU

Table 3
Southern Nuclear Operating Company
Plant Vogtle Landfill #3
Appendix I to Part 40 CFR Part 258: Constituents for Detection Monitoring (1)

Common Name (2)	EPA Method
Inorganic Constituents:	
(1) Antimony.....	6010B/7041
(2) Arsenic.....	6010B/7061
(3) Barium.....	6010B/7091
(4) Beryllium.....	6010B/7091
(5) Cadmium.....	6010B/7131
(6) Chromium.....	6010B/7191
(7) Cobalt.....	6010B/7201
(8) Copper.....	6010B/7211
(9) Lead.....	6010B/7421
(10) Nickel.....	6010B/7520
(11) Selenium.....	6010B/7741
(12) Silver.....	6010B/7761
(13) Thallium.....	6010B/7841
(14) Vanadium.....	6010B/7911
(15) Zinc.....	6010B/7951
Organic Constituents:	
(16) Acetone.....	8260
(17) Acrylonitrile.....	
(18) Benzene.....	
(19) Bromochloromethane.....	
(20) Bromodichloromethane.....	
(21) Bromoform; Tribromomethane.....	
(22) Carbon disulfide.....	
(23) Carbon tetrachloride.....	
(24) Chlorobenzene.....	
(25) Chloroethane; Ethyl chloride.....	
(26) Chloroform; Trichloromethane.....	
(27) Dibromochloromethane; Chlorodibromomethane.....	
(28) 1,2-Dibromo-3-chloropropane; DBCP.....	
(29) 1,2-Dibromoethane; Ethylene dibromide; EDB.....	
(30) o-Dichlorobenzene; 1,2-Dichlorobenzene.....	
(31) p-Dichlorobenzene; 1,4-Dichlorobenzene.....	
(32) trans-1,4-Dichloro-2-butene.....	
(33) 1,1-Dichloroethane; Ethylidene chloride.....	
(34) 1,2-Dichloroethane; Ethylene dichloride.....	
(35) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride.....	
(36) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene....	
(37) trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	
(38) 1,2-Dichloropropane; Propylene dichloride.....	
(39) cis-1,3-Dichloropropene.....	
(40) trans-1,3-Dichloropropene.....	
(41) Ethylbenzene.....	
(42) 2-Hexanone; Methyl butyl ketone.....	
(43) Methyl bromide; Bromomethane.....	
(44) Methyl chloride; Chloromethane.....	

Table 3 (continued)
Southern Nuclear Operating Company, Inc.
Plant Vogtle Landfill #3
Appendix I to Part 40 CFR Part 258: Constituents for Detection Monitoring (1)

Common Name (2)	EPA Method
(45) Methylene bromide; Dibromomethane.....	8260
(46) Methylene chloride; Dichloromethane.....	
(47) Methyl ethyl ketone; MEK; 2-Butanone.....	
(48) Methyl iodide; Iodomethane.....	
(49) 4-Methyl-2-pentanone; Methyl isobutyl ketone.....	
(50) Styrene.....	
(51) 1,1,1,2-Tetrachloroethane.....	
(52) 1,1,2,2-Tetrachloroethane.....	
(53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene.....	
(54) Toluene.....	
(55) 1,1,1-Trichloroethane; Methylchloroform.....	
(56) 1,1,2-Trichloroethane.....	
(57) Trichloroethylene; Trichloroethene.....	
(58) Trichlorofluoromethane; CFC-11.....	
(59) 1,2,3-Trichloropropane.....	
(60) Vinyl acetate.....	
(61) Vinyl chloride.....	
(62) Xylenes.....	

(1) This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 ``Test Methods for Evaluating Solid Waste,`` third edition, November 1986, as revised December 1987, includes Method 8260; and 15 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.

(2) Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

Table 4
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
December 2005

CONSTITUENT	MCL	WELL SAMPLES								
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWA-7/MW-7 ³	GWC-13/MW-13	GWC-14/MW-14	GWA-15/MW-15	GWC-17/MW-17	GWC-18/MW-18
<u>Metals¹</u>										
Barium	2.00	BQL	BQL	0.024	0.022	0.044	NS	BQL	BQL	NS
Zinc	NA	0.055	0.020	0.068	0.217	0.194	NS	0.042	0.096	NS
<u>Organics²</u>										
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL	18	NS	BQL	BQL	NS
Chlorobenzene	100	BQL	BQL	BQL	BQL	4J	NS	BQL	BQL	NS
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL	9	NS	BQL	BQL	NS
Trichlorofluoromethane	NA	BQL	BQL	88	85	60	NS	BQL	BQL	NS
Vinyl chloride	2	BQL	BQL	BQL	BQL	1J	NS	BQL	BQL	NS
Napthalene ⁴	NA	NA	NA	5	BQL	NA	NS	NA	NA	NA
Benzene	5	BQL	BQL	BQL	BQL	5	NS	BQL	BQL	NS
Trichloroethene	5	BQL	BQL	BQL	BQL	5	NS	BQL	BQL	NS

BQL - Below quantification level; J - Estimated Value

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

NS - Not sampled; well dry or insufficient recovery to sample well

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Replicate sample of well GWC-7/MW-7 sample

⁴Appendix II parameter; NA reflects that this parameter was not analyzed for those wells not included in the Assessment Monitoring Program

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
June 2005

CONSTITUENT	MCL	WELL SAMPLES								
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWC-13/MW-13	GWC-13/MW-13 ⁵	GWC-14/MW-14	GWA-15/MW-15	GWC-17/MW-17	GWC-18/MW-18
Metals¹										
Barium	2.00	BQL	BQL	BQL	0.028	0.031	NS	BQL	BQL	BQL
Zinc	NA	BQL	BQL	BQL	0.020	BQL	NS	0.029	BQL	BQL
Copper	1.3 ⁵	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Mercury ⁴	0.002	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Chromium (total)	0.1	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Beryllium	0.004	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Cadmium	0.005	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Nickel	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Lead	0.015 ⁶	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Vanadium	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Organics²										
1,1-Dichloroethane	NA	BQL	BQL	BQL	15	15	NS	BQL	BQL	BQL
Carbon disulfide	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL	32	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
1,4-Dichlorobenzene	75	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	8	8	NS	BQL	BQL	BQL
Trichlorofluoromethane	NA	BQL	BQL	22	46	45	NS	BQL	BQL	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Chloroform ³	0.1	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Trichloroethene	5	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

NS - Not sampled; well dry or insufficient recovery to sample well

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Applies only to Community Water Systems serving 10,000

⁴Appendix II parameter; NA reflects that this parameter was not analyzed for those wells not included in the Assessment Monitoring Program

⁵Replicate sample of well GWC-13/MW-13 sample

⁶Action Level

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
December 2004

CONSTITUENT	MCL	WELL SAMPLES						
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWA-7/MW-7 ⁵	GWC-13/MW-13	GWC-14/MW-14	GWA-15/MW-15
Metals¹								
Barium	2.00	BQL	BQL	BQL	BQL	0.043	NS	BQL
Zinc	NA	BQL	BQL	BQL	BQL	0.044	NS	BQL
Copper	1.3 ⁶	BQL	BQL	BQL	BQL	BQL	NS	BQL
Mercury ⁴	0.002	BQL	BQL	BQL	0.0017	BQL	NS	0.0004
Chromium (total)	0.1	BQL	BQL	BQL	BQL	BQL	NS	BQL
Beryllium	0.004	BQL	BQL	BQL	BQL	BQL	NS	BQL
Cadmium	0.005	BQL	BQL	BQL	BQL	BQL	NS	BQL
Nickel	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL
Lead	0.015 ⁶	BQL	BQL	BQL	BQL	BQL	NS	BQL
Vanadium	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL
Organics²								
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL	16	NS	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	NS	BQL
1,4-Dichlorobenzene	75	BQL	BQL	BQL	BQL	BQL	NS	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL	BQL	NS	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL	8	NS	BQL
Trichlorofluoromethane	NA	BQL	BQL	146	143	81	NS	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL	BQL	NS	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	BQL	NS	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	BQL	NS	BQL
Chloroform ³	0.1	BQL	BQL	BQL	BQL	BQL	NS	BQL
Trichloroethene	5	BQL	BQL	BQL	BQL	BQL	NS	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

NS - Not sampled; well dry or insufficient recovery to sample well

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Applies only to Community Water Systems serving 10,000

⁴Appendix II parameter; NA reflects that this parameter was not analyzed for those wells not included in the Assessment Monitoring Program

⁵Replicate sample of well GWA-7/MW-7 sample

⁶Action Level

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
June 2004

CONSTITUENT	MCL	WELL SAMPLES						
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWC-13/MW-13	GWC-13/MW-13 ⁵	GWC-14/MW-14	GWA-15/MW-15
Metals¹								
Barium	2.00	0.040	BQL	BQL	0.034	0.034	NS	BQL
Zinc	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL
Copper	1.3 ⁶	BQL	BQL	BQL	BQL	BQL	NS	BQL
Mercury ⁴	0.002	BQL	BQL	0.0006	BQL	BQL	NS	BQL
Chromium (total)	0.1	BQL	BQL	BQL	BQL	BQL	NS	BQL
Beryllium	0.004	BQL	BQL	BQL	BQL	BQL	NS	BQL
Cadmium	0.005	BQL	BQL	BQL	BQL	BQL	NS	BQL
Nickel	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL
Lead	0.015 ⁶	BQL	BQL	BQL	BQL	BQL	NS	BQL
Vanadium	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL
Organics²								
1,1-Dichloroethane	NA	BQL	BQL	BQL	17	19	NS	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	NS	BQL
1,4-Dichlorobenzene	75	BQL	BQL	BQL	BQL	BQL	NS	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL	BQL	NS	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	9	10	NS	BQL
Trichlorofluoromethane	NA	BQL	BQL	46	121	133	NS	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL	BQL	NS	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	BQL	NS	BQL
Vinyl chloride	2	BQL	BQL	BQL	2	2	NS	BQL
Chloroform ³	0.1	BQL	BQL	BQL	BQL	BQL	NS	BQL
Trichloroethene	5	BQL	BQL	13	BQL	BQL	NS	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

NS - Not sampled; well dry or insufficient recovery to sample well

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Applies only to Community Water Systems serving 10,000

⁴Appendix II parameter; NA reflects that this parameter was not analyzed for those wells not included in the Assessment Monitoring Program

⁵Replicate sample of well GWC-13/MW-13 sample

⁶Action Level

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
December 2003

CONSTITUENT	MCL	WELL SAMPLES						
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWC-13/MW-13	GWC-13/MW-13 ⁵	GWC-14/MW-14	GWA-15/MW-15
<u>Metals¹</u>								
Barium	2.00	0.142	BQL	BQL	0.033	0.032	0.189	BQL
Zinc	NA	0.032	BQL	0.023	BQL	BQL	0.127	BQL
Copper	1.3 ⁶	0.025	BQL	BQL	BQL	BQL	0.026	BQL
Mercury ⁴	0.002	BQL	BQL	BQL	BQL	BQL	0.01	BQL
Chromium (total)	0.1	0.028	BQL	BQL	BQL	BQL	0.091	BQL
Beryllium	0.004	BQL	BQL	BQL	BQL	BQL	0.004	BQL
Cadmium	0.005	BQL	BQL	BQL	BQL	BQL	0.011	BQL
Nickel	NA	BQL	BQL	BQL	BQL	BQL	0.034	BQL
Lead	0.015 ⁶	BQL	BQL	BQL	BQL	BQL	0.015	BQL
Vanadium	NA	BQL	BQL	BQL	BQL	BQL	0.060	BQL
<u>Organics²</u>								
1,1-Dichloroethane	NA	BQL	BQL	BQL	20	21	10	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	19	BQL
1,4-Dicholorbenzene	75	BQL	BQL	BQL	BQL	BQL	33	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	14	14	17	BQL
Trichlorofluoromethane	NA	BQL	BQL	34	102	97	BQL	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	BQL	10	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chloroform ³	0.1	BQL	BQL	BQL	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Applies only to Community Water Systems serving 10,000

⁴Appendix II parameter

⁵Replicate sample of well GWC-13/MW-13 sample

⁶Action Level

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
June 2003

CONSTITUENT	MCL	WELL SAMPLES						
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWC-13/MW-13	GWC-13/MW-13 ⁵	GWC-14/MW-14	GWA-15/MW-15
Metals¹								
Barium	2.00	BQL	BQL	0.036	0.029	0.030	0.051	BQL
Zinc	NA	BQL	BQL	0.034	BQL	BQL	BQL	BQL
Copper	1.3	BQL	BQL	0.035	BQL	BQL	BQL	BQL
Mercury ⁴	0.002	NS	NS	NS	0.0005	0.0005	0.0072	BQL
Organics²								
1,1-Dichloroethane	NA	BQL	BQL	BQL	9	9	10	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	7	BQL
1,4-Dichlorobenzene	75	BQL	BQL	BQL	BQL	BQL	16	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	6	6	10	BQL
Trichlorofluoromethane	NA	BQL	BQL	23	41	47	5	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chloroform ³	0.1	BQL	BQL	BQL	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Applies only to Community Water Systems serving 10,000

⁴Appendix II parameter; NS reflects that this parameter was not analyzed for those wells not included in the Assessment Monitoring Program

⁵Replicate sample of well GWC-13/MW-13 sample

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
December 2002

CONSTITUENT	MCL	WELL SAMPLES					
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWC-13/MW-13	GWC-14/MW-14	GWA-15/MW-15
<u>Metals¹</u>							
Barium	2.00	0.018	BQL	0.015	0.082	0.106	BQL
Zinc	NA	BQL	BQL	BQL	0.027	BQL	BQL
<u>Organics²</u>							
1,1-Dichloroethane	NA	BQL	BQL	BQL	7	16	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	10	BQL
1,4-Dicholorbenzene	75	BQL	BQL	BQL	BQL	39	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL	19	BQL
Trichlorofluoromethane	NA	BQL	BQL	210	391	27	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	11	24	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	21	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	4	BQL
Chloroform ³	0.1	BQL	BQL	BQL	5	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Applies only to Community Water Systems serving 10,000

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
October 2002

CONSTITUENT	MCL	WELL SAMPLES						
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWC-13/MW-13	GWC-14/MW-14	GWA-15/MW-15	GWA-15-2/MW-15-2 ³
<u>Metals¹</u>								
Barium		BQL	BQL	BQL	0.083	0.064	BQL	BQL
Zinc		BQL	BQL	BQL	0.027	BQL	BQL	BQL
<u>Organics²</u>								
1,1-Dichloroethane	NA	BQL	BQL	BQL	6	17	BQL	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	9	BQL	BQL
1,4-Dicholorbenzene	75	BQL	BQL	BQL	BQL	35	BQL	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL	11	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL	16	BQL	BQL
Trichlorofluoromethane	NA	BQL	BQL	221	348	31	BQL	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	11	BQL	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Replicate sample of GWA-15/MW-15 well

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
September 2002

CONSTITUENT	MCL	WELL SAMPLES						
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWC-13/MW-13	GWC-14/MW-14	GWC-14-2/MW-14-2 ³	GWA-15/MW-15
<u>Metals¹</u>								
Barium	2	0.020	BQL	BQL	0.085	0.092	0.095	BQL
Zinc	NA	BQL	BQL	BQL	0.023	BQL	BQL	BQL
<u>Organics²</u>								
1,1-Dichloroethane	NA	BQL	BQL	BQL	6	21	21	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	8	8	BQL
1,4-Dichlorobenzene	75	BQL	BQL	BQL	BQL	37	36	BQL
Methylene chloride	5	BQL	BQL	BQL	BQL	BQL	BQL	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL	19	18	BQL
Trichlorofluoromethane	NA	BQL	BQL	32	381	47	48	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	8	29	28	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	23	23	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	BQL	3	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per Georgia EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Replicate sample of GWB-14//MW-14 well sample

Bold indicates detected concentration is greater than the MCL.

Table 4 (Continued)
Southern Nuclear Operating Company Plant Vogtle Landfill #3
Summary of Detected Parameters
July 2002

CONSTITUENT	MCL	WELLS ¹						
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWA-7-2/MW-7-2 ³	GWC-13/MW-13	GWC-14/MW-14	GWA-15/MW-15
<u>Metals¹</u>								
Barium	2	BQL	BQL	BQL	BQL	0.077	0.068	BQL
Zinc	NA	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<u>Organics²</u>								
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL	BQL	13	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	75	BQL	BQL	BQL	BQL	BQL	20	BQL
Methylene chloride	5	9	6	8	7	8	8	BQL
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL	BQL	10	BQL
Trichlorofluoromethane	NA	BQL	BQL	177	192	300	43	BQL
1,1-Dichloroethene	7	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	BQL	8	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	BQL	BQL	BQL

BQL - Below quantification level

MCL - Maximum Contaminant Level per Georgia EPD Rule Chapter 391-3-5; NA - None available

¹Metals concentrations in mg/L

²Organics concentration units in ug/l or ppb

³Replicate sample of GWA-7/MW-7 well sample

Bold indicates detected concentration is greater than the MCL.

FIGURES

**APPENDIX A – HYDRAULIC GRADIENT CALCULATION
SHEETS**

Plant Vogtle Landfill #3
Gradient Calculation
(based on three-point problem)
December 2005 Monitoring Event

<u>Water Table</u>			
<u>Well Designation</u>	<u>Elevation</u>	<u>Northing</u>	<u>Easting</u>
GWC-5/MW-5	203.91	9604.30	7999.33
GWB-6/MW-6	231.67	9432.48	7473.25
GWA-7/MW-7	229.73	8826.22	7657.89
GWC-13/MW-13	233.15	9242.72	7995.86
GWC-14/MW-14	210.32	8960.64	7999.10
GWA-15/MW-15	220.76	8975.71	6886.73
GWC-17/MW-17	150.04	8553.09	8135.59
GWC-18/MW-18	DRY	8938.05	8238.63

Gradient Calculation from fitting a plane to three points

$$a x_1 + b y_1 + c z_1 + d = 0$$

$$a x_2 + b y_2 + c z_2 + d = 0$$

$$a x_3 + b y_3 + c z_3 + d = 0$$

where (x_i, y_i) are the coordinates of the well and z_i is the head, $i = 1, 2, 3$

The gradient is calculated from the square root of $(a^2 + b^2)$

Southwest Gradient

Wells of Interest = (GWB-6, GWA-7 & GWA-15) (High-Mid-Low)

	x	y	z
GWB-6/MW-6	9432.48	7473.25	231.67
GWA-7/MW-7	8826.22	7657.89	229.73
GWA-15/MW-15	8975.71	6886.73	220.76

$$a = \begin{vmatrix} 7473.25 & 231.67 & 1 \\ 7657.89 & 229.73 & 1 \\ 6886.73 & 220.76 & 1 \end{vmatrix} = -3152.271$$

$$b = \begin{vmatrix} 9432.48 & 231.67 & 1 \\ 8826.22 & 229.73 & 1 \\ 8975.71 & 220.76 & 1 \end{vmatrix} = 5728.1628$$

$$c = \begin{vmatrix} 9432.48 & 7473.25 & 1 \\ 8826.22 & 7657.89 & 1 \\ 8975.71 & 6886.73 & 1 \end{vmatrix} = 439921.63$$

$$d = \begin{vmatrix} 9432.48 & 7473.25 & 231.67 \\ 8826.22 & 7657.89 & 229.73 \\ 8975.71 & 6886.73 & 220.76 \end{vmatrix} = 29374916$$

$$z_0 = -66.77306592$$

$$m_x = 0.007165529$$

$$m_y = -0.013020871$$

Southwest Gradient =	0.015
----------------------	-------

Plant Vogtle Landfill #3
Gradient Calculation
(based on three-point problem)

Northeast Gradient

Wells of Interest = (GWC-13, GWB-6 & GWC-5) (High-Mid-Low)

	x	y	z
GWC-13/MW-13	9242.72	7995.86	233.15
GWB-6/MW-6	9432.48	7473.25	231.67
GWC-5/MW-5	9604.30	7999.33	203.91

$$a = \begin{vmatrix} 7995.86 & 233.15 & 1 \\ 7473.25 & 231.67 & 1 \\ 7999.33 & 203.91 & 1 \end{vmatrix} = 15286.252$$

$$b = \begin{vmatrix} 9242.72 & 233.15 & 1 \\ 9432.48 & 231.67 & 1 \\ 9604.30 & 203.91 & 1 \end{vmatrix} = -5013.444$$

$$c = \begin{vmatrix} 9242.72 & 7995.86 & 1 \\ 9432.48 & 7473.25 & 1 \\ 9604.30 & 7999.33 & 1 \end{vmatrix} = 189623.79$$

$$d = \begin{vmatrix} 9242.72 & 7995.86 & 233.15 \\ 9432.48 & 7473.25 & 231.67 \\ 9604.30 & 7999.33 & 203.91 \end{vmatrix} = 225584130$$

$$z0 = -1189.640441$$

$$mx = -0.080613577$$

$$my = 0.026438898$$

Northeast Gradient =	0.08
----------------------	------

Plant Vogtle Landfill #3
Gradient Calculation
(based on three-point problem)

Southeast Gradient

Wells of Interest = (GWC-13, GWA-7 & GWC-14) (High-Mid-Low)

	x	y	z
GWC-13/MW-13	9242.72	7995.86	233.15
GWA-7/MW-7	8826.22	7657.89	229.73
GWC-14/MW-14	8960.64	7999.10	210.32

$$a = \begin{vmatrix} 7995.86 & 233.15 & 1 \\ 7657.89 & 229.73 & 1 \\ 7999.10 & 210.32 & 1 \end{vmatrix} = 7726.9359$$

$$b = \begin{vmatrix} 9242.72 & 233.15 & 1 \\ 8826.22 & 229.73 & 1 \\ 8960.64 & 210.32 & 1 \end{vmatrix} = 8543.9814$$

$$c = \begin{vmatrix} 9242.72 & 7995.86 & 1 \\ 8826.22 & 7657.89 & 1 \\ 8960.64 & 7999.10 & 1 \end{vmatrix} = -96684.04$$

$$d = \begin{vmatrix} 9242.72 & 7995.86 & 233.15 \\ 8826.22 & 7657.89 & 229.73 \\ 8960.64 & 7999.10 & 210.32 \end{vmatrix} = -19440458$$

$$z0 = -201.0720485$$

$$mx = 0.079919458$$

$$my = 0.088370134$$

Southeast Gradient =	0.12
----------------------	------

APPENDIX B – LABORATORY ANALYTICAL REPORTS
DECEMBER 2005

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Laboratory Report

ACL Project #: 49407

Client Proj #: Vogtle LF #3

Prepared For:

The Dextra Group, LLC
4665 Lower Roswell Road
#154
Marietta, GA 30068-0000

Attention: Mr. Kurt Batsel

Report Date: 12/29/2005

This report contains 71 pages.
(including this cover page and chain of custody)



John Andros
Technical Director

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Data Qualifier Codes

<u>Code</u>	<u>Description</u>
A	Value reported is the mean of two or more determinations;
B	Indicates the analyte was detected in the sample and method blank;
BQL	Below practical quantitation limit;
DW	Results reported on a dry-weight basis (ex: mg/kg,dw);
E	Estimated value: (i) sample received or analyzed beyond the accepted holding time; (ii) sample received at improper temperature; (iii) the continuing calibration for an analyte did not meet qc criteria;
H	Estimated value; result higher than the highest calibration standard;
J	Reported value is between the method detection limit and the practical quantitation limit;
PQL	Practical quantitation limit;
TIC	Tentatively identified compound;
***	Not analyzed due to interferences;

Upon client request, a statement of the test result estimated uncertainty can be provided.

NOTE: Unless otherwise noted, all results are reported on an as received basis.

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: GWC-5/MW-5

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted:

Date Analyzed: 12/14/2005

ACL Sample #: 238733 **Units:** µg/L

Analyst: RP

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWC-5/MW-5

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

ACL Sample #: 238733 **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWC-5/MW-5

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted:

Date Analyzed: 12/13/2005

ACL Sample #: 238733 **Units:** mg/L

Analyst: SW

Analyte	Result	PQL
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	BQL	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	0.055	0.020

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

<u>Sample ID</u>	<u>ACL #</u>	<u>Analyte</u>	<u>Matrix</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Date Analyzed</u>
GWC-5/MW-5	238733	Mercury (7470A)	Water	BQL	0.0005	mg/L	12/19/2005

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: GWB-6/MW-6

Matrix: Water

Date Sampled: 12/05/2005

Date Extracted:

Date Analyzed: 12/14/2005

ACL Sample #: 238734 **Units:** µg/L

Analyst: RP

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWB-6/MW-6

Matrix: Water

Date Sampled: 12/05/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

ACL Sample #: 238734 **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWB-6/MW-6

Matrix: Water

Date Sampled: 12/05/2005

Date Extracted:

Date Analyzed: 12/13/2005

ACL Sample #: 238734 **Units:** mg/L

Analyst: SW

Analyte	Result	PQL
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	BQL	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	0.020	0.020



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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

<u>Sample ID</u>	<u>ACL #</u>	<u>Analyte</u>	<u>Matrix</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Date Analyzed</u>
GWB-6/MW-6	238734	Mercury (7470A)	Water	BQL	0.0005	mg/L	12/19/2005

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix II

Sample ID: GWA-7/MW-7

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/14/2005
Analyst: RP

ACL Sample #: 238735 **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Ethyl methacrylate	BQL	10
Acetonitrile	BQL	100	Ethylbenzene	BQL	5
Acrolein	BQL	100	2-Hexanone	BQL	50
Acrylonitrile	BQL	50	Isobutyl alcohol	BQL	50
Allyl chloride	BQL	10	Methacrylonitrile	BQL	100
Benzene	BQL	5	Methyl bromide	BQL	10
Bromochloromethane	BQL	5	Methyl chloride	BQL	10
Bromodichloromethane	BQL	5	Methyl ethyl ketone	BQL	100
Bromoform	BQL	5	Methyl iodide	BQL	5
Carbon disulfide	BQL	5	Methyl methacrylate	BQL	30
Carbon tetrachloride	BQL	5	4-Methyl-2-pentanone	BQL	50
Chlorobenzene	BQL	5	Methylene bromide	BQL	5
Chloroethane	BQL	10	Methylene chloride	BQL	5
Chloroform	BQL	5	Naphthalene	5	5
Chloroprene	BQL	20	Propionitrile	BQL	150
1,2-Dibromo-3-chloropropane	BQL	20	Styrene	BQL	5
Dibromochloromethane	BQL	5	1,1,1,2-Tetrachloroethane	BQL	5
1,2-Dibromoethane	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10	Tetrachloroethene	BQL	5
1,2-Dichlorobenzene	BQL	5	Toluene	BQL	5
1,3-Dichlorobenzene	BQL	5	1,1,1-Trichloroethane	BQL	5
1,4-Dichlorobenzene	BQL	5	1,1,2-Trichloroethane	BQL	5
Dichlorodifluoromethane	BQL	5	Trichloroethene	BQL	5
1,1-Dichloroethane	BQL	5	Trichlorofluoromethane	88	5
1,2-Dichloroethane	BQL	5	1,2,3-Trichloropropane	BQL	5
1,1-Dichloroethene	BQL	5	Vinyl acetate	BQL	50
cis-1,2-Dichloroethene	BQL	5	Vinyl chloride	BQL	2
trans-1,2-Dichloroethene	BQL	5	m & p-Xylenes	BQL	10
1,2-Dichloropropane	BQL	5	o-Xylene	BQL	5
1,3-Dichloropropane	BQL	5			
2,2-Dichloropropane	BQL	15			
1,1-Dichloropropene	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			

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Client: The Dextra Group, LLC
4665 Lower Roswell Road
#154
Marietta, GA 30068-0000

Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Acid Extractables (8270C) - Appendix II

Sample ID: GWA-7/MW-7

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/12/2005

Date Analyzed: 12/12/2005

ACL Sample #: 238735 **Units:** µg/L

Analyst: RB

Analyte	Result	PQL
4-Chloro-3-methylphenol	BQL	20
2-Chlorophenol	BQL	10
m & p-Cresol	BQL	10
o-Cresol	BQL	10
2,4-Dichlorophenol	BQL	10
2,6-Dichlorophenol	BQL	10
2,4-Dimethylphenol	BQL	10
4,6-Dinitro-2-methylphenol	BQL	50
2,4-Dinitrophenol	BQL	50
2-Nitrophenol	BQL	10
4-Nitrophenol	BQL	50
Pentachlorophenol	BQL	50
Phenol	BQL	10
2,3,4,6-Tetrachlorophenol	BQL	10
2,4,5-Trichlorophenol	BQL	10
2,4,6-Trichlorophenol	BQL	10

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Base Neutral Extractables (8270C) - Appendix II

Sample ID: GWA-7/MW-7

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/12/2005

Date Analyzed: 12/12/2005

ACL Sample #: 238735 **Units:** µg/L

Analyst: RB

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acenaphthene	BQL	10	Dimethyl phthalate	BQL	10
Acenaphthylene	BQL	10	p-(Dimethylamino)azobenzene	BQL	10
Acetophenone	BQL	10	7,12-Dimethylbenz(a)anthracene	BQL	10
2-Acetylaminofluorene	BQL	20	3,3'-Dimethylbenzidine	BQL	10
4-Aminobiphenyl	BQL	20	m-Dinitrobenzene	BQL	20
Anthracene	BQL	10	2,4-Dinitrotoluene	BQL	10
Benzo(a)anthracene	BQL	10	2,6-Dinitrotoluene	BQL	10
Benzo(a)pyrene	BQL	10	Diphenylamine	BQL	10
Benzo(b)fluoranthene	BQL	10	Disulfoton	BQL	10
Benzo(g,h,i)perylene	BQL	10	Ethyl methanesulfonate	BQL	20
Benzo(k)fluoranthene	BQL	10	Famphur	BQL	20
Benzyl alcohol	BQL	20	Fluoranthene	BQL	10
Bis(2-chloroethoxy)methane	BQL	10	Fluorene	BQL	10
Bis(2-chloroethyl)ether	BQL	10	Hexachlorobenzene	BQL	10
Bis(2-chloroisopropyl)ether	BQL	10	Hexachlorobutadiene	BQL	10
Bis(2-ethylhexyl)phthalate	BQL	10	Hexachlorocyclopentadiene	BQL	10
4-Bromophenyl phenyl ether	BQL	10	Hexachloroethane	BQL	10
Butyl benzyl phthalate	BQL	10	Hexachloropropene	BQL	10
p-Chloroaniline	BQL	20	Indeno(1,2,3-cd)pyrene	BQL	10
Chlorobenzilate	BQL	10	Isodrin	BQL	20
2-Chloronaphthalene	BQL	10	Isophorone	BQL	10
4-Chlorophenyl phenyl ether	BQL	10	Isosafrole	BQL	10
Chrysene	BQL	10	Kepone	BQL	20
Di-n-butyl phthalate	BQL	10	Methapyrilene	BQL	100
Di-n-octyl phthalate	BQL	10	Methyl methanesulfonate	BQL	10
Diallate	BQL	10	Methyl parathion	BQL	10
Dibenz(a,h)anthracene	BQL	10	3-Methylcholanthrene	BQL	10
Dibenzofuran	BQL	10	2-Methylnaphthalene	BQL	10
1,2-Dichlorobenzene	BQL	10	Naphthalene	BQL	10
1,3-Dichlorobenzene	BQL	10	1,4-Naphthoquinone	BQL	10
1,4-Dichlorobenzene	BQL	10	1-Naphthylamine	BQL	10
3,3'-Dichlorobenzidine	BQL	20	2-Naphthylamine	BQL	10
Diethyl phthalate	BQL	10	5-Nitro-o-toluidine	BQL	10
Dimethoate	BQL	10	2-Nitroaniline	BQL	50

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Base Neutral Extractables (8270C) - Appendix II

Sample ID: GWA-7/MW-7

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/12/2005

Date Analyzed: 12/12/2005

ACL Sample #: 238735 **Units:** µg/L

Analyst: RB

Analyte	Result	PQL
3-Nitroaniline	BQL	50
4-Nitroaniline	BQL	20
Nitrobenzene	BQL	10
N-Nitroso-di-n-butylamine	BQL	10
N-Nitrosodiethylamine	BQL	20
N-Nitrosodimethylamine	BQL	10
N-Nitrosodiphenylamine	BQL	10
N-Nitrosodipropylamine	BQL	10
N-Nitrosomethylethylamine	BQL	10
N-Nitrosopiperidine	BQL	20
N-Nitrosopyrrolidine	BQL	40
Parathion	BQL	20
Pentachlorobenzene	BQL	10
Pentachloronitrobenzene	BQL	20
Phenacetin	BQL	20
Phenanthrene	BQL	10
p-Phenylenediamine	BQL	10
Phorate	BQL	10
Pronamide	BQL	10
Pyrene	BQL	10
Safrole	BQL	10
1,2,4,5-Tetrachlorobenzene	BQL	10
Thionazin	BQL	20
o-Toluidine	BQL	10
1,2,4-Trichlorobenzene	BQL	10
o,o,o-Triethyl phosphorothioate	BQL	50
1,3,5-Trinitrobenzene	BQL	10

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Pesticides/PCBs (8081A/8082) - Appendix II

Sample ID: GWA-7/MW-7

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/08/2005

Date Analyzed: 12/12/2005

ACL Sample #: 238735 **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Aldrin	BQL	0.05
Arochlor-1016	BQL	0.50
Arochlor-1221	BQL	0.50
Arochlor-1232	BQL	0.50
Arochlor-1242	BQL	0.50
Arochlor-1248	BQL	0.50
Arochlor-1254	BQL	0.50
Arochlor-1260	BQL	0.50
a-BHC	BQL	0.05
b-BHC	BQL	0.05
d-BHC	BQL	0.05
g-BHC	BQL	0.05
Chlordane	BQL	0.10
4,4'-DDD	BQL	0.05
4,4'-DDE	BQL	0.05
4,4'-DDT	BQL	0.05
Dieldrin	BQL	0.05
Endosulfan I	BQL	0.05
Endosulfan II	BQL	0.05
Endosulfan sulfate	BQL	0.05
Endrin	BQL	0.05
Endrin aldehyde	BQL	0.05
Heptachlor	BQL	0.05
Heptachlor epoxide	BQL	0.05
Methoxychlor	BQL	0.05
Toxaphene	BQL	2.00

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Chlorinated Herbicides (8151A) - Appendix II

Sample ID: GWA-7/MW-7

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/12/2005

Date Analyzed: 12/21/2005

ACL Sample #: 238735 **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
2,4-D	BQL	1.0
Dinoseb	BQL	1.0
2,4,5-TP (Silvex)	BQL	1.0
2,4,5-T	BQL	1.0

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWA-7/MW-7

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

ACL Sample #: 238735 **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Appendix II Metals (6010B/7470A/7841/7041)

Sample ID: GWA-7/MW-7

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/13/2005
Analyst: SW/JR

ACL Sample #: 238735 **Units:** mg/L

Analyte	Result	PQL
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	0.024	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Mercury	BQL	0.0005
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Tin	BQL	0.025
Vanadium	BQL	0.050
Zinc	0.068	0.020

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

<u>Sample ID</u>	<u>ACL #</u>	<u>Analyte</u>	<u>Matrix</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Date Analyzed</u>
GWA-7/MW-7	238735	Cyanide (9012A)	Water	BQL	0.020	mg/L	12/12/2005
GWA-7/MW-7	238735	Sulfide (9034)	Water	BQL	1.0	mg/L	12/10/2005

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix II

Sample ID: GWA-7/MW-7 Dup

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/14/2005
Analyst: RP

ACL Sample #: 238736 **Units:** µg/L

Analyte	Result	PQL	Analyte	Result	PQL
Acetone	BQL	100	Ethyl methacrylate	BQL	10
Acetonitrile	BQL	100	Ethylbenzene	BQL	5
Acrolein	BQL	100	2-Hexanone	BQL	50
Acrylonitrile	BQL	50	Isobutyl alcohol	BQL	50
Allyl chloride	BQL	10	Methacrylonitrile	BQL	100
Benzene	BQL	5	Methyl bromide	BQL	10
Bromochloromethane	BQL	5	Methyl chloride	BQL	10
Bromodichloromethane	BQL	5	Methyl ethyl ketone	BQL	100
Bromoform	BQL	5	Methyl iodide	BQL	5
Carbon disulfide	BQL	5	Methyl methacrylate	BQL	30
Carbon tetrachloride	BQL	5	4-Methyl-2-pentanone	BQL	50
Chlorobenzene	BQL	5	Methylene bromide	BQL	5
Chloroethane	BQL	10	Methylene chloride	BQL	5
Chloroform	BQL	5	Naphthalene	BQL	5
Chloroprene	BQL	20	Propionitrile	BQL	150
1,2-Dibromo-3-chloropropane	BQL	20	Styrene	BQL	5
Dibromochloromethane	BQL	5	1,1,1,2-Tetrachloroethane	BQL	5
1,2-Dibromoethane	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10	Tetrachloroethene	BQL	5
1,2-Dichlorobenzene	BQL	5	Toluene	BQL	5
1,3-Dichlorobenzene	BQL	5	1,1,1-Trichloroethane	BQL	5
1,4-Dichlorobenzene	BQL	5	1,1,2-Trichloroethane	BQL	5
Dichlorodifluoromethane	BQL	5	Trichloroethene	BQL	5
1,1-Dichloroethane	BQL	5	Trichlorofluoromethane	85	5
1,2-Dichloroethane	BQL	5	1,2,3-Trichloropropane	BQL	5
1,1-Dichloroethene	BQL	5	Vinyl acetate	BQL	50
cis-1,2-Dichloroethene	BQL	5	Vinyl chloride	BQL	2
trans-1,2-Dichloroethene	BQL	5	m & p-Xylenes	BQL	10
1,2-Dichloropropane	BQL	5	o-Xylene	BQL	5
1,3-Dichloropropane	BQL	5			
2,2-Dichloropropane	BQL	15			
1,1-Dichloropropene	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Acid Extractables (8270C) - Appendix II

Sample ID: GWA-7/MW-7 Dup

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted: 12/12/2005
Date Analyzed: 12/12/2005
Analyst: RB

ACL Sample #: 238736 **Units:** µg/L

Analyte	Result	PQL
4-Chloro-3-methylphenol	BQL	20
2-Chlorophenol	BQL	10
m & p-Cresol	BQL	10
o-Cresol	BQL	10
2,4-Dichlorophenol	BQL	10
2,6-Dichlorophenol	BQL	10
2,4-Dimethylphenol	BQL	10
4,6-Dinitro-2-methylphenol	BQL	50
2,4-Dinitrophenol	BQL	50
2-Nitrophenol	BQL	10
4-Nitrophenol	BQL	50
Pentachlorophenol	BQL	50
Phenol	BQL	10
2,3,4,6-Tetrachlorophenol	BQL	10
2,4,5-Trichlorophenol	BQL	10
2,4,6-Trichlorophenol	BQL	10

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Base Neutral Extractables (8270C) - Appendix II

Sample ID: GWA-7/MW-7 Dup

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted: 12/12/2005
Date Analyzed: 12/12/2005
Analyst: RB

ACL Sample #: 238736 **Units:** µg/L

Analyte	Result	PQL	Analyte	Result	PQL
Acenaphthene	BQL	10	Dimethyl phthalate	BQL	10
Acenaphthylene	BQL	10	p-(Dimethylamino)azobenzene	BQL	10
Acetophenone	BQL	10	7,12-Dimethylbenz(a)anthracene	BQL	10
2-Acetylaminofluorene	BQL	20	3,3'-Dimethylbenzidine	BQL	10
4-Aminobiphenyl	BQL	20	m-Dinitrobenzene	BQL	20
Anthracene	BQL	10	2,4-Dinitrotoluene	BQL	10
Benzo(a)anthracene	BQL	10	2,6-Dinitrotoluene	BQL	10
Benzo(a)pyrene	BQL	10	Diphenylamine	BQL	10
Benzo(b)fluoranthene	BQL	10	Disulfoton	BQL	10
Benzo(g,h,i)perylene	BQL	10	Ethyl methanesulfonate	BQL	20
Benzo(k)fluoranthene	BQL	10	Famphur	BQL	20
Benzyl alcohol	BQL	20	Fluoranthene	BQL	10
Bis(2-chloroethoxy)methane	BQL	10	Fluorene	BQL	10
Bis(2-chloroethyl)ether	BQL	10	Hexachlorobenzene	BQL	10
Bis(2-chloroisopropyl)ether	BQL	10	Hexachlorobutadiene	BQL	10
Bis(2-ethylhexyl)phthalate	BQL	10	Hexachlorocyclopentadiene	BQL	10
4-Bromophenyl phenyl ether	BQL	10	Hexachloroethane	BQL	10
Butyl benzyl phthalate	BQL	10	Hexachloropropene	BQL	10
p-Chloroaniline	BQL	20	Indeno(1,2,3-cd)pyrene	BQL	10
Chlorobenzilate	BQL	10	Isodrin	BQL	20
2-Chloronaphthalene	BQL	10	Isophorone	BQL	10
4-Chlorophenyl phenyl ether	BQL	10	Isosafrole	BQL	10
Chrysene	BQL	10	Kepone	BQL	20
Di-n-butyl phthalate	BQL	10	Methapyrilene	BQL	100
Di-n-octyl phthalate	BQL	10	Methyl methanesulfonate	BQL	10
Diallate	BQL	10	Methyl parathion	BQL	10
Dibenz(a,h)anthracene	BQL	10	3-Methylcholanthrene	BQL	10
Dibenzofuran	BQL	10	2-Methylnaphthalene	BQL	10
1,2-Dichlorobenzene	BQL	10	Naphthalene	BQL	10
1,3-Dichlorobenzene	BQL	10	1,4-Naphthoquinone	BQL	10
1,4-Dichlorobenzene	BQL	10	1-Naphthylamine	BQL	10
3,3'-Dichlorobenzidine	BQL	20	2-Naphthylamine	BQL	10
Diethyl phthalate	BQL	10	5-Nitro-o-toluidine	BQL	10
Dimethoate	BQL	10	2-Nitroaniline	BQL	50

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Base Neutral Extractables (8270C) - Appendix II

Sample ID: GWA-7/MW-7 Dup

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/12/2005

Date Analyzed: 12/12/2005

ACL Sample #: 238736 **Units:** µg/L

Analyst: RB

Analyte	Result	PQL
3-Nitroaniline	BQL	50
4-Nitroaniline	BQL	20
Nitrobenzene	BQL	10
N-Nitroso-di-n-butylamine	BQL	10
N-Nitrosodiethylamine	BQL	20
N-Nitrosodimethylamine	BQL	10
N-Nitrosodiphenylamine	BQL	10
N-Nitrosodipropylamine	BQL	10
N-Nitrosomethylethylamine	BQL	10
N-Nitrosopiperidine	BQL	20
N-Nitrosopyrrolidine	BQL	40
Parathion	BQL	20
Pentachlorobenzene	BQL	10
Pentachloronitrobenzene	BQL	20
Phenacetin	BQL	20
Phenanthrene	BQL	10
p-Phenylenediamine	BQL	10
Phorate	BQL	10
Pronamide	BQL	10
Pyrene	BQL	10
Safrole	BQL	10
1,2,4,5-Tetrachlorobenzene	BQL	10
Thionazin	BQL	20
o-Toluidine	BQL	10
1,2,4-Trichlorobenzene	BQL	10
o,o,o-Triethyl phosphorothioate	BQL	50
1,3,5-Trinitrobenzene	BQL	10

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Pesticides/PCBs (8081A/8082) - Appendix II

Sample ID: GWA-7/MW-7 Dup

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted: 12/08/2005
Date Analyzed: 12/12/2005
Analyst: TM

ACL Sample #: 238736 **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Aldrin	BQL	0.05
Arochlor-1016	BQL	0.50
Arochlor-1221	BQL	0.50
Arochlor-1232	BQL	0.50
Arochlor-1242	BQL	0.50
Arochlor-1248	BQL	0.50
Arochlor-1254	BQL	0.50
Arochlor-1260	BQL	0.50
a-BHC	BQL	0.05
b-BHC	BQL	0.05
d-BHC	BQL	0.05
g-BHC	BQL	0.05
Chlordane	BQL	0.10
4,4'-DDD	BQL	0.05
4,4'-DDE	BQL	0.05
4,4'-DDT	BQL	0.05
Dieldrin	BQL	0.05
Endosulfan I	BQL	0.05
Endosulfan II	BQL	0.05
Endosulfan sulfate	BQL	0.05
Endrin	BQL	0.05
Endrin aldehyde	BQL	0.05
Heptachlor	BQL	0.05
Heptachlor epoxide	BQL	0.05
Methoxychlor	BQL	0.05
Toxaphene	BQL	2.00

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4665 Lower Roswell Road
#154
Marietta, GA 30068-0000

Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Chlorinated Herbicides (8151A) - Appendix II

Sample ID: GWA-7/MW-7 Dup

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/12/2005

Date Analyzed: 12/21/2005

ACL Sample #: 238736 **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
2,4-D	BQL	1.0
Dinoseb	BQL	1.0
2,4,5-TP (Silvex)	BQL	1.0
2,4,5-T	BQL	1.0

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWA-7/MW-7 Dup

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

ACL Sample #: 238736 **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Appendix II Metals (6010B/7470A/7841/7041)

Sample ID: GWA-7/MW-7 Dup

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted:

Date Analyzed: 12/13/2005

ACL Sample #: 238736 **Units:** mg/L

Analyst: SW/JR

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	0.022	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Mercury	BQL	0.0005
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Tin	BQL	0.025
Vanadium	BQL	0.050
Zinc	0.217	0.020

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

<u>Sample ID</u>	<u>ACL #</u>	<u>Analyte</u>	<u>Matrix</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Date Analyzed</u>
GWA-7/MW-7 Dup	238736	Cyanide (9012A)	Water	BQL	0.020	mg/L	12/12/2005
GWA-7/MW-7 Dup	238736	Sulfide (9034)	Water	BQL	1.0	mg/L	12/10/2005

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: GWC-13/MW-13

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted:

Date Analyzed: 12/14/2005

ACL Sample #: 238737 **Units:** µg/L

Analyst: RP

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	5	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	5	5
Chlorobenzene	4 J	5	Trichlorofluoromethane	60	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	1 J	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	18	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	9	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			



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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWC-13/MW-13

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

Analyst: TM

ACL Sample #: 238737 **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWC-13/MW-13

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/13/2005
Analyst: SW

ACL Sample #: 238737 **Units:** mg/L

Analyte	Result	PQL
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	0.044	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	0.194	0.020

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

<u>Sample ID</u>	<u>ACL #</u>	<u>Analyte</u>	<u>Matrix</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Date Analyzed</u>
GWC-13/MW-13	238737	Mercury (7470A)	Water	BQL	0.0005	mg/L	12/19/2005

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: GWA-15/MW-15

Matrix: Water

Date Sampled: 12/05/2005

Date Extracted:

Date Analyzed: 12/14/2005

ACL Sample #: 238738 **Units:** µg/L

Analyst: RP

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWA-15/MW-15

Matrix: Water

Date Sampled: 12/05/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

ACL Sample #: 238738 **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWA-15/MW-15

Matrix: Water

Date Sampled: 12/05/2005

Date Extracted:

Date Analyzed: 12/13/2005

ACL Sample #: 238738 **Units:** mg/L

Analyst: SW

Analyte	Result	PQL
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	BQL	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	0.042	0.020

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

<u>Sample ID</u>	<u>ACL #</u>	<u>Analyte</u>	<u>Matrix</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Date Analyzed</u>
GWA-15/MW-15	238738	Mercury (7470A)	Water	BQL	0.0005	mg/L	12/19/2005

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: GWC-17/MW-17

Matrix: Water
Date Sampled: 12/06/2005
Date Extracted:
Date Analyzed: 12/14/2005
Analyst: RP

ACL Sample #: 238739 **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWC-17/MW-17

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

ACL Sample #: 238739 **Units:** µg/L

Analyst: TM

Analyte	Result	PQL
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05



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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWC-17/MW-17

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted:

Date Analyzed: 12/13/2005

ACL Sample #: 238739 **Units:** mg/L

Analyst: SW

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	BQL	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	0.096	0.020

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

<u>Sample ID</u>	<u>ACL #</u>	<u>Analyte</u>	<u>Matrix</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Date Analyzed</u>
GWC-17/MW-17	238739	Mercury (7470A)	Water	BQL	0.0005	mg/L	12/19/2005

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: EQ-Blank

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted:

Date Analyzed: 12/14/2005

ACL Sample #: 238740 **Units:** µg/L

Analyst: RP

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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Client: The Dextra Group, LLC
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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: EQ-Blank

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted: 12/13/2005

Date Analyzed: 12/14/2005

ACL Sample #: 238740 **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: EQ-Blank

Matrix: Water

Date Sampled: 12/06/2005

Date Extracted:

Date Analyzed: 12/13/2005

ACL Sample #: 238740 **Units:** mg/L

Analyst: SW

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	BQL	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Vanadium	BQL	0.050
Zinc	BQL	0.020

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ACL Project #: 49407
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Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

<u>Sample ID</u>	<u>ACL #</u>	<u>Analyte</u>	<u>Matrix</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Date Analyzed</u>
EQ-Blank	238740	Mercury (7470A)	Water	BQL	0.0005	mg/L	12/19/2005

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Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix II

Sample ID: Trip Blank

Matrix: Water

Date Sampled: 12/05/2005

Date Extracted:

Date Analyzed: 12/14/2005

ACL Sample #: 238741 **Units:** µg/L

Analyst: RP

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Ethyl methacrylate	BQL	10
Acetonitrile	BQL	100	Ethylbenzene	BQL	5
Acrolein	BQL	100	2-Hexanone	BQL	50
Acrylonitrile	BQL	50	Isobutyl alcohol	BQL	50
Allyl chloride	BQL	10	Methacrylonitrile	BQL	100
Benzene	BQL	5	Methyl bromide	BQL	10
Bromochloromethane	BQL	5	Methyl chloride	BQL	10
Bromodichloromethane	BQL	5	Methyl ethyl ketone	BQL	100
Bromoform	BQL	5	Methyl iodide	BQL	5
Carbon disulfide	BQL	5	Methyl methacrylate	BQL	30
Carbon tetrachloride	BQL	5	4-Methyl-2-pentanone	BQL	50
Chlorobenzene	BQL	5	Methylene bromide	BQL	5
Chloroethane	BQL	10	Methylene chloride	BQL	5
Chloroform	BQL	5	Naphthalene	BQL	5
Chloroprene	BQL	20	Propionitrile	BQL	150
1,2-Dibromo-3-chloropropane	BQL	20	Styrene	BQL	5
Dibromochloromethane	BQL	5	1,1,1,2-Tetrachloroethane	BQL	5
1,2-Dibromoethane	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10	Tetrachloroethene	BQL	5
1,2-Dichlorobenzene	BQL	5	Toluene	BQL	5
1,3-Dichlorobenzene	BQL	5	1,1,1-Trichloroethane	BQL	5
1,4-Dichlorobenzene	BQL	5	1,1,2-Trichloroethane	BQL	5
Dichlorodifluoromethane	BQL	5	Trichloroethene	BQL	5
1,1-Dichloroethane	BQL	5	Trichlorofluoromethane	BQL	5
1,2-Dichloroethane	BQL	5	1,2,3-Trichloropropane	BQL	5
1,1-Dichloroethene	BQL	5	Vinyl acetate	BQL	50
cis-1,2-Dichloroethene	BQL	5	Vinyl chloride	BQL	2
trans-1,2-Dichloroethene	BQL	5	m & p-Xylenes	BQL	10
1,2-Dichloropropane	BQL	5	o-Xylene	BQL	5
1,3-Dichloropropane	BQL	5			
2,2-Dichloropropane	BQL	15			
1,1-Dichloropropene	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			

ACL

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Client Proj #: ---Vogle LE #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I
SURROGATE PERCENT RECOVERY SUMMARY
Water

ACL Sample #	Dibromofluoromethane (77-137)	1,2-Dichloroethane-d4 (72-138)	Toluene-d8 (84-112)	4-Bromofluorobenzene (77-125)
238733	100	94	103	98
238734	98	95	103	99
238737	101	95	102	101
238738	101	96	102	101
238739	102	98	105	97
238740	99	95	102	100

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix I

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted:

Date Analyzed: 12/14/2005

ACL Sample #: Blank **Units:** µg/L

Analyst: RP

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Styrene	BQL	5
Acrylonitrile	BQL	50	1,1,1,2-Tetrachloroethane	BQL	5
Benzene	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
Bromochloromethane	BQL	5	Tetrachloroethene	BQL	5
Bromodichloromethane	BQL	5	Toluene	BQL	5
Bromoform	BQL	5	1,1,1-Trichloroethane	BQL	5
Carbon disulfide	BQL	5	1,1,2-Trichloroethane	BQL	5
Carbon tetrachloride	BQL	5	Trichloroethene	BQL	5
Chlorobenzene	BQL	5	Trichlorofluoromethane	BQL	5
Chloroethane	BQL	10	1,2,3-Trichloropropane	BQL	5
Chloroform	BQL	5	Vinyl acetate	BQL	50
1,2-Dibromo-3-chloropropane	BQL	20	Vinyl chloride	BQL	2
Dibromochloromethane	BQL	5	m & p-Xylenes	BQL	10
1,2-Dibromoethane	BQL	5	o-Xylene	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10			
1,2-Dichlorobenzene	BQL	5			
1,4-Dichlorobenzene	BQL	5			
1,1-Dichloroethane	BQL	5			
1,2-Dichloroethane	BQL	5			
1,1-Dichloroethene	BQL	5			
cis-1,2-Dichloroethene	BQL	5			
trans-1,2-Dichloroethene	BQL	5			
1,2-Dichloropropane	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			
Ethylbenzene	BQL	5			
2-Hexanone	BQL	50			
Methyl bromide	BQL	10			
Methyl chloride	BQL	10			
Methyl ethyl ketone	BQL	100			
Methyl iodide	BQL	5			
4-Methyl-2-pentanone	BQL	50			
Methylene bromide	BQL	5			
Methylene chloride	BQL	5			

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ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

V.O. (5030B/8260B) - Appendix II
SURROGATE PERCENT RECOVERY SUMMARY
Water

	Dibromofluoromethane (77-137)	1,2-Dichloroethane-d4 (72-138)	Toluene-d8 (84-112)	4-Bromofluorobenzene (77-125)
ACL Sample #				
238735	100	98	104	102
238736	103	95	104	99
238741	99	97	100	100

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V.O. (5030B/8260B) - Appendix II

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted:

Date Analyzed: 12/14/2005

Analyst: RP

ACL Sample #: Blank **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acetone	BQL	100	Ethyl methacrylate	BQL	10
Acetonitrile	BQL	100	Ethylbenzene	BQL	5
Acrolein	BQL	100	2-Hexanone	BQL	50
Acrylonitrile	BQL	50	Isobutyl alcohol	BQL	50
Allyl chloride	BQL	10	Methacrylonitrile	BQL	100
Benzene	BQL	5	Methyl bromide	BQL	10
Bromochloromethane	BQL	5	Methyl chloride	BQL	10
Bromodichloromethane	BQL	5	Methyl ethyl ketone	BQL	100
Bromoform	BQL	5	Methyl iodide	BQL	5
Carbon disulfide	BQL	5	Methyl methacrylate	BQL	30
Carbon tetrachloride	BQL	5	4-Methyl-2-pentanone	BQL	50
Chlorobenzene	BQL	5	Methylene bromide	BQL	5
Chloroethane	BQL	10	Methylene chloride	BQL	5
Chloroform	BQL	5	Naphthalene	BQL	5
Chloroprene	BQL	20	Propionitrile	BQL	150
1,2-Dibromo-3-chloropropane	BQL	20	Styrene	BQL	5
Dibromochloromethane	BQL	5	1,1,1,2-Tetrachloroethane	BQL	5
1,2-Dibromoethane	BQL	5	1,1,2,2-Tetrachloroethane	BQL	5
trans-1,4-Dichloro-2-butene	BQL	10	Tetrachloroethene	BQL	5
1,2-Dichlorobenzene	BQL	5	Toluene	BQL	5
1,3-Dichlorobenzene	BQL	5	1,1,1-Trichloroethane	BQL	5
1,4-Dichlorobenzene	BQL	5	1,1,2-Trichloroethane	BQL	5
Dichlorodifluoromethane	BQL	5	Trichloroethene	BQL	5
1,1-Dichloroethane	BQL	5	Trichlorofluoromethane	BQL	5
1,2-Dichloroethane	BQL	5	1,2,3-Trichloropropane	BQL	5
1,1-Dichloroethene	BQL	5	Vinyl acetate	BQL	50
cis-1,2-Dichloroethene	BQL	5	Vinyl chloride	BQL	2
trans-1,2-Dichloroethene	BQL	5	m & p-Xylenes	BQL	10
1,2-Dichloropropane	BQL	5	o-Xylene	BQL	5
1,3-Dichloropropane	BQL	5			
2,2-Dichloropropane	BQL	15			
1,1-Dichloropropene	BQL	5			
cis-1,3-Dichloropropene	BQL	5			
trans-1,3-Dichloropropene	BQL	5			

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GC/MS UNIT # 3

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Sequence Date : 12-14-05

Matrix Spike - Sample No.: 238733-1

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	MS CONCENTRATION (µg/L)	MS % REC-#	QC LIMITS REC.
1,1-dichloroethene	20.0	0.0	17.2	86	(54-144)
benzene	20.0	0.0	21.1	106	(82-132)
trichloroethene	20.0	0.0	21.8	109	(73-128)
toluene	20.0	0.0	22.0	110	(83-130)
chlorobenzene	20.0	0.0	23.2	116	(82-123)

COMPOUND	SPIKE ADDED (µg/L)	MSD CONCENTRATION (µg/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
1,1-dichloroethene	20.0	17.0	85	1	14	(54-144)
benzene	20.0	20.6	103	3	14	(82-132)
trichloroethene	20.0	21.2	106	3	14	(73-128)
toluene	20.0	22.1	111	1	13	(83-130)
chlorobenzene	20.0	22.0	110	5	13	(82-123)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

Comments: _____

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Marietta, GA 30068-0000

Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Acid Extractables (8270C) - Appendix II
SURROGATE PERCENT RECOVERY SUMMARY
Water

ACL Sample #	Phenol-d6 (8-50)	2-Fluorophenol (8-58)	2,4,6-Tribromophenol (10-123)
238735	18	27	34
238736	17	23	37

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Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Acid Extractables (8270C) - Appendix II

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted: 12/12/2005

Date Analyzed: 12/12/2005

ACL Sample #: **Blank** **Units:** µg/L

Analyst: RB

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
4-Chloro-3-methylphenol	BQL	20
2-Chlorophenol	BQL	10
m & p-Cresol	BQL	10
o-Cresol	BQL	10
2,4-Dichlorophenol	BQL	10
2,6-Dichlorophenol	BQL	10
2,4-Dimethylphenol	BQL	10
4,6-Dinitro-2-methylphenol	BQL	50
2,4-Dinitrophenol	BQL	50
2-Nitrophenol	BQL	10
4-Nitrophenol	BQL	50
Pentachlorophenol	BQL	50
Phenol	BQL	10
2,3,4,6-Tetrachlorophenol	BQL	10
2,4,5-Trichlorophenol	BQL	10
2,4,6-Trichlorophenol	BQL	10

ADVANCED CHEMISTRY LABS, INC.

SEMI-VOL GC/MS UNIT # 4

ACID EXTRACTABLES (8270C)

WATER SEMI-VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Sequence Date : 12-12-05

Matrix Spike - Sample No.: LCS121205

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	MS CONCENTRATION (µg/L)	MS % REC #	QC. LIMITS REC.
Pentachlorophenol	200	0	121	60.5	(9-103)
Phenol	200	0	63	31.5	(12-89)
2-Chlorophenol	200	0	130	65.0	(27-123)
4-Chloro-3-methylphenol	200	0	137	68.5	(23-97)
4-Nitrophenol	200	0	43	21.5	(10-80)

COMPOUND	SPIKE ADDED (µg/L)	MSD CONCENTRATION (µg/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Pentachlorophenol	200	134	67.0	10.2	50	(9-103)
Phenol	200	61	30.5	3.2	42	(12-89)
2-Chlorophenol	200	129	64.5	0.8	40	(27-123)
4-Chloro-3-methylphenol	200	143	71.5	4.3	42	(23-97)
4-Nitrophenol	200	32	16.0	29.3	50	(10-80)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

Comments: _____



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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Base Neutral Extractables (8270C) - Appendix II

SURROGATE PERCENT RECOVERY SUMMARY

Water

ACL Sample #	Nitrobenzene-d5 (28-87)	2-Fluorobiphenyl (25-106)	Terphenyl-d14 (32-135)
238735	47	46	52
238736	54	52	46

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Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Base Neutral Extractables (8270C) - Appendix II

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted: 12/12/2005

Date Analyzed: 12/12/2005

Analyst: RB

ACL Sample #: Blank **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>	<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Acenaphthene	BQL	10	Dimethyl phthalate	BQL	10
Acenaphthylene	BQL	10	p-(Dimethylamino)azobenzene	BQL	10
Acetophenone	BQL	10	7,12-Dimethylbenz(a)anthracene	BQL	10
2-Acetylaminofluorene	BQL	20	3,3'-Dimethylbenzidine	BQL	10
4-Aminobiphenyl	BQL	20	m-Dinitrobenzene	BQL	20
Anthracene	BQL	10	2,4-Dinitrotoluene	BQL	10
Benzo(a)anthracene	BQL	10	2,6-Dinitrotoluene	BQL	10
Benzo(a)pyrene	BQL	10	Diphenylamine	BQL	10
Benzo(b)fluoranthene	BQL	10	Disulfoton	BQL	10
Benzo(g,h,i)perylene	BQL	10	Ethyl methanesulfonate	BQL	20
Benzo(k)fluoranthene	BQL	10	Famphur	BQL	20
Benzyl alcohol	BQL	20	Fluoranthene	BQL	10
Bis(2-chloroethoxy)methane	BQL	10	Fluorene	BQL	10
Bis(2-chloroethyl)ether	BQL	10	Hexachlorobenzene	BQL	10
Bis(2-chloroisopropyl)ether	BQL	10	Hexachlorobutadiene	BQL	10
Bis(2-ethylhexyl)phthalate	BQL	10	Hexachlorocyclopentadiene	BQL	10
4-Bromophenyl phenyl ether	BQL	10	Hexachloroethane	BQL	10
Butyl benzyl phthalate	BQL	10	Hexachloropropene	BQL	10
p-Chloroaniline	BQL	20	Indeno(1,2,3-cd)pyrene	BQL	10
Chlorobenzilate	BQL	10	Isodrin	BQL	20
2-Chloronaphthalene	BQL	10	Isophorone	BQL	10
4-Chlorophenyl phenyl ether	BQL	10	Isosafrole	BQL	10
Chrysene	BQL	10	Kepone	BQL	20
Di-n-butyl phthalate	BQL	10	Methapyrilene	BQL	100
Di-n-octyl phthalate	BQL	10	Methyl methanesulfonate	BQL	10
Diallate	BQL	10	Methyl parathion	BQL	10
Dibenz(a,h)anthracene	BQL	10	3-Methylcholanthrene	BQL	10
Dibenzofuran	BQL	10	2-Methylnaphthalene	BQL	10
1,2-Dichlorobenzene	BQL	10	Naphthalene	BQL	10
1,3-Dichlorobenzene	BQL	10	1,4-Naphthoquinone	BQL	10
1,4-Dichlorobenzene	BQL	10	1-Naphthylamine	BQL	10
3,3'-Dichlorobenzidine	BQL	20	2-Naphthylamine	BQL	10
Diethyl phthalate	BQL	10	5-Nitro-o-toluidine	BQL	10
Dimethoate	BQL	10	2-Nitroaniline	BQL	50

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Client: The Dextra Group, LLC
4665 Lower Roswell Road
#154
Marietta, GA 30068-0000

Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Base Neutral Extractables (8270C) - Appendix II

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted: 12/12/2005

Date Analyzed: 12/12/2005

Analyst: RB

ACL Sample #: Blank **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
3-Nitroaniline	BQL	50
4-Nitroaniline	BQL	20
Nitrobenzene	BQL	10
N-Nitroso-di-n-butylamine	BQL	10
N-Nitrosodiethylamine	BQL	20
N-Nitrosodimethylamine	BQL	10
N-Nitrosodiphenylamine	BQL	10
N-Nitrosodipropylamine	BQL	10
N-Nitrosomethylethylamine	BQL	10
N-Nitrosopiperidine	BQL	20
N-Nitrosopyrrolidine	BQL	40
Parathion	BQL	20
Pentachlorobenzene	BQL	10
Pentachloronitrobenzene	BQL	20
Phenacetin	BQL	20
Phenanthrene	BQL	10
p-Phenylenediamine	BQL	10
Phorate	BQL	10
Pronamide	BQL	10
Pyrene	BQL	10
Safrole	BQL	10
1,2,4,5-Tetrachlorobenzene	BQL	10
Thionazin	BQL	20
o-Toluidine	BQL	10
1,2,4-Trichlorobenzene	BQL	10
o,o,o-Triethyl phosphorothioate	BQL	50
1,3,5-Trinitrobenzene	BQL	10

ADVANCED CHEMISTRY LABS, INC.

SEMI-VOL GC/MS UNIT # 4

BASE/NEUTRAL EXTRACTABLES (8270C)

WATER SEMI-VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Sequence Date : 12-12-05

Matrix Spike - Sample No.: LCS121205

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	MS CONCENTRATION (µg/L)	MS % REC #	QC. LIMITS REC.
1,2,4-Trichlorobenzene	100	0	72	72.0	(39-98)
Acenaphthene	100	0	75	75.0	(46-118)
2,4-Dinitrotoluene	100	0	88	88.0	(24-96)
Di-n-butyl phthalate	100	0	53	53.0	(11-117)
Pyrene	100	0	61	61.0	(26-127)
N-Nitrosodi-n-propylamine	100	0	63	63.0	(41-116)
1,4-Dichlorobenzene	100	0	58	58.0	(36-97)

COMPOUND	SPIKE ADDED µg/L	MSD CONCENTRATION µg/L	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
1,2,4-Trichlorobenzene	100	73	73.0	1.4	28	(39-98)
Acenaphthene	100	61	61.0	20.6	31	(46-118)
2,4-Dinitrotoluene	100	72	72.0	20.0	38	(24-96)
Di-n-butyl phthalate	100	62	62.0	15.7	40	(11-117)
Pyrene	100	57	57.0	6.8	31	(26-127)
N-Nitrosodi-n-propylamine	100	61	61.0	3.2	38	(41-116)
1,4-Dichlorobenzene	100	57	57.0	1.7	28	(36-97)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 7 outside limits

Spike Recovery: 0 out of 14 outside limits

Comments: _____

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Marietta, GA 30068-0000

Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Pesticides/PCBs (8081A/8082) - Appendix II
SURROGATE PERCENT RECOVERY SUMMARY
Water

ACL Sample #	TCMX (30-130)	DCBP (30-130)
238735	100	47
238736	97	43

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Pesticides/PCBs (8081A/8082) - Appendix II

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted: 12/08/2005

Date Analyzed: 12/12/2005

Analyst: TM

ACL Sample #: Blank **Units:** µg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Aldrin	BQL	0.05
Arochlor-1016	BQL	0.50
Arochlor-1221	BQL	0.50
Arochlor-1232	BQL	0.50
Arochlor-1242	BQL	0.50
Arochlor-1248	BQL	0.50
Arochlor-1254	BQL	0.50
Arochlor-1260	BQL	0.50
a-BHC	BQL	0.05
b-BHC	BQL	0.05
d-BHC	BQL	0.05
α-BHC	BQL	0.05
Chlordane	BQL	0.10
4,4'-DDD	BQL	0.05
4,4'-DDE	BQL	0.05
4,4'-DDT	BQL	0.05
Dieldrin	BQL	0.05
Endosulfan I	BQL	0.05
Endosulfan II	BQL	0.05
Endosulfan sulfate	BQL	0.05
Endrin	BQL	0.05
Endrin aldehyde	BQL	0.05
Heptachlor	BQL	0.05
Heptachlor epoxide	BQL	0.05
Methoxychlor	BQL	0.05
Toxaphene	BQL	2.00

Advanced Chemistry Labs

Pesticides Spike/Spike Dup. Report (SW-846 Method 8081A)

Instrument ID: HP5890A-ECDGC#1
 Column: STx-CLP, 30m, 0.53mm, 0.5µm
 ACL #: LCSW120805
 Matrix: WATER
 Extraction Date: 12/8/05
 Analysis Date: 12/12/05
 Initial Volume: 1000.0 ml
 Final Volume: 1
 Dilution Factor: 1
 Unit: µg/L or ppb

Pesticide	R.T. MS	Spike Added	Sample Result	MS Conc.	MS Rec. (%)	R.T. MSD	MSD Conc.	MSD Rec. (%)	RPD (%)	QC Limits		
										RPD	% Recovery	
a-BHC	5.503	0.500	0.000	0.560	112	5.507	0.554	111	1	25	40	160
g-BHC (Lindane)	6.156	0.500	0.000	0.540	108	6.160	0.530	106	2	25	40	160
b-BHC	6.346	0.500	0.000	0.511	102	6.350	0.505	101	1	25	40	160
d-BHC	6.762	0.500	0.000	0.546	109	6.766	0.537	107	2	25	40	160
Heptachlor	7.246	0.500	0.000	0.549	110	7.249	0.541	108	2	25	40	160
Aldrin	7.999	0.500	0.000	0.547	109	8.003	0.524	105	4	25	40	160
Heptachlor Epoxide	9.648	0.500	0.000	0.560	112	9.651	0.549	110	2	25	40	160
DDE	10.645	0.500	0.000	0.552	110	10.648	0.536	107	3	25	40	160
a-Endosulfan I	10.787	0.500	0.000	0.549	110	10.790	0.543	109	1	25	40	160
Dieldrin	11.513	0.500	0.000	0.613	123	11.515	0.575	115	6	25	40	160
Endrin	12.221	0.500	0.000	0.612	122	12.223	0.597	119	3	25	40	160
DDD	12.500	0.500	0.000	0.609	122	12.502	0.593	119	3	25	40	160
b-Endosulfan II	12.939	0.500	0.000	0.562	112	12.941	0.547	109	3	25	40	160
DDT	13.391	0.500	0.000	0.481	96	13.393	0.467	93	3	25	40	160
Endrin Aldehyde	14.314	0.500	0.000	0.518	104	14.315	0.502	100	3	25	40	160
Methoxychlor	15.053	0.500	0.000	0.584	117	15.054	0.574	115	2	25	40	160
Mirex	15.314	0.500	0.000	0.464	93	15.315	0.455	91	2	25	40	160
Endosulfan Sulfate	15.749	0.500	0.000	0.530	106	15.749	0.506	101	5	25	40	160
Endrin Ketone	16.633	0.500	0.000	0.521	104	16.633	0.512	102	2	25	40	160

Pesticide Calculation based on curve prep. on

11/21/05

* Outside QC limits



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Client: The Dextra Group, LLC
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#154
Marietta, GA 30068-0000

Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Chlorinated Herbicides (8151A) - Appendix II

SURROGATE PERCENT RECOVERY SUMMARY

Water

ACL Sample #	DCAA (30-130)
238735	93
238736	106

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Chlorinated Herbicides (8151A) - Appendix II

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted: 12/12/2005

Date Analyzed: 12/21/2005

ACL Sample #: Blank **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
2,4-D	BQL	1.0
Dinoseb	BQL	1.0
2,4,5-TP (Silvex)	BQL	1.0
2,4,5-T	BQL	1.0

Advanced Chemistry Labs

Herbicides Spike Report (SW-846 Method 8151A)

Instrument ID: HP5890A-ECDGC#5

Column: STx-CLP, 30m, 0.53mm, 0.5µm

ACL #: LCSW121205

Matrix: WATER

Extraction Date: 12/12/05

Analysis Date: 12/12/05

Initial Volume: 1000.0 ml

Final Volume: 4

Dilution Factor: 1

Unit: µg/L or ppb

Herbicide	R.T. MS	Spike Added	Sample Result	MS Conc.	MS Rec. (%)	R.T. MSD	MSD Conc.	MSD Rec. (%)	RPD (%)	Q RPD
Dalapon	6.819	4.000	0.000	3.832	96	6.819	3.744	94	2	25
4-Nitrophenol	19.420	4.000	0.000	4.383	110	19.423	4.185	105	5	25
Dicamba	21.479	0.800	0.000	0.670	84	21.481	0.610	76	9	25
MCPP	0.000		0.000			0.000				25
MCPA	22.253	400.000	0.000	410.812	103	22.254	384.680	96	7	25
Dichlorprop	22.880	4.000	0.000	3.297	82	22.882	3.287	82	0	25
2,4-D	23.612	4.000	0.000	3.600	90	23.614	3.474	87	4	25
Pentachlorophenol	23.841	0.400	0.000	0.412	103	23.843	0.395	99	4	25
Silvex(2,4,5-TP)	24.383	0.800	0.000	0.775	97	24.385	0.757	95	2	25
2,4,5-T	24.808	0.800	0.000	1.048	131	24.809	1.027	128	2	25
Dinoseb	25.484	0.800	0.000	1.203	150	25.485	1.170	146	3	25
2,4-DB	26.082	4.000	0.000	3.802	95	26.083	3.618	90	5	25
Picloram	28.017	0.400	0.000	0.257	64	28.019	0.242	61	6	25
Acifluorfen	29.496	0.400	0.000	0.247	62	29.498	0.240	60	3	25

Herbicide Calculation based on curve prep. on

08/26/05

* Outside QC limits

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Marietta, GA 30068-0000

Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II
SURROGATE PERCENT RECOVERY SUMMARY
Water

Bromofluorobenzene (40-140)	
ACL Sample #	
238733	89
238734	99
238735	96
238736	94
238737	68
238738	65
238739	96
238740	97



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Marietta, GA 30068-0000

Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted: 12/13/2005

Date Analyzed: 12/13/2005

ACL Sample #: Blank **Units:** µg/L

Analyst: TM

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
1,2-Dibromo-3-chloropropane	BQL	0.20
1,2-Dibromoethane	BQL	0.05

Advanced Chemistry Labs

Pesticides Spike Report (SW-846 Method 8011/Method 504.1)

Instrument ID: HP5890A-ECDGC#5

Column: STx-CLP, 30m, 0.53mm, 0.5µm

ACL #: LCSW121305

Matrix: Water

Extraction Date: 12/13/05

Analysis Date: 12/13/05

Initial Volume: 35.0 ml

Final Volume: 2

Dilution Factor: 1

Unit: µg/L or ppb

Pesticide	R.T. MS	Spike Added	Sample Result	MS Conc.	MS Rec. (%)	R.T. MSD	MSD Conc.	MSD Rec. (%)	RPD (%)	QC Limits		
										RPD	% Recovery	
EDB	6.091	0.500	0.000	0.442	88	6.089	0.443	89	0	25	60	140
TCP	8.770	0.500	0.000	0.500	100	8.767	0.482	96	4	25	60	140
DBCP	12.104	0.500	0.000	0.421	84	12.108	0.386	77	9	25	60	140

Outside QC limits

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Client Proj #: Vogtle LF #3
ACL Project #: 49407
Date Received: 12/08/2005
Date Reported: 12/29/2005

Contact: Mr. Kurt Batsel

Appendix II Metals (6010B/7470A/7841/7041)

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted:

Date Analyzed: 12/13/2005

Analyst: SW/JR

ACL Sample #: **Blank** **Units:** mg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	BQL	0.020
Beryllium	BQL	0.004
Cadmium	BQL	0.005
Chromium	BQL	0.020
Cobalt	BQL	0.050
Copper	BQL	0.020
Lead	BQL	0.010
Mercury	BQL	0.0005
Nickel	BQL	0.020
Selenium	BQL	0.040
Silver	BQL	0.010
Thallium	BQL	0.002
Tin	BQL	0.025
Vanadium	BQL	0.050
Zinc	BQL	0.020

ADVANCED CHEMISTRY LABS, INC.

Appendix II Metals (6010B/7470A/7841/7041) Water Matrix Spike/Spike Duplicate Recoveries

Instrument : TJA 61E Trace ICAP
Date Digested : 12-12-05
Date Analyzed : 12-13-05
ACL Sample No.: LCS/LCSD 121205

ANALYTE	SPIKE Added (mg/L)	SAMPLE Result (mg/L)	MS Conc. (mg/L)	MS Rec. (%)	MSD Conc. (mg/L)	MSD Rec. (%)	RPD	QC Limits		
								RPD	% Recovery	
Antimony (7041)	0.040	0.000	0.035	89	0.036	89	0	20	70	130
Arsenic	0.200	0.000	0.195	97	0.195	97	0	20	75	125
Barium	1.000	0.000	0.992	99	0.978	98	1	20	75	125
Beryllium	0.200	0.000	0.204	102	0.201	101	1	20	75	125
Cadmium	0.050	0.000	0.051	102	0.051	101	1	20	75	125
Chromium	0.200	0.000	0.206	103	0.204	102	1	20	75	125
Cobalt	0.200	0.000	0.206	103	0.203	102	1	20	75	125
Copper	0.200	0.000	0.205	102	0.201	101	2	20	75	125
Lead	0.200	0.000	0.207	104	0.205	102	1	20	75	125
Mercury (7470A)	0.0020	0.0000	0.0021	106	0.0022	109	3	20	70	130
Nickel	0.200	0.000	0.205	103	0.203	101	1	20	75	125
Selenium	0.050	0.000	0.050	100	0.048	97	4	20	75	125
Silver	0.020	0.000	0.023	113	0.022	111	1	20	75	125
Tin	2.000	0.000	2.039	102	2.019	101	1	20	75	125
Thallium (7841)	0.040	0.000	0.044	110	0.044	110	0	20	70	130
Vanadium	0.500	0.000	0.511	102	0.506	101	1	20	75	125
Zinc	0.200	0.000	0.212	106	0.210	105	1	20	75	125

* Outside QC Limits

Comment :

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Page 1 of 2

Company Name: The Dextra Group		Phone #: (770) 578-9696		CHAIN-OF CUSTODY RECORD AND ANALYSIS REQUEST	
Company Address: 4665 Lower Roswell Rd. Suite 154 Marietta, GA 30068		Fax #: (770) 521-5345			
Project Manager: Mr. Kurt Batsel		Client Project: (#) Vogtle LF #3		ANALYSIS REQUEST	
I attest that the proper field sampling procedures were used during the collection of these samples. Tiffany Messner Josh Threadgill		Sampler Name (Print):			

Field Sample ID	# Container	Matrix						Method Preserved						Sampling		Date	Time	App I VO	App I Metals	11 Hg	EDB/DBCP	Complete App II	Remarks	
		Water	Soil	Air	Sludge	Product	Other	HCl	HNO ₃	H ₂ SO ₄	Ice	None	Other											
GWC-5/MW-5	5	X						2	1		X	2				12/6/05	11:30	X	X	X	X			
GWB-6/MW-6	5	X						2	1		X	2				12/9/05	14:30	X	X	X	X			
GWA-7/MW-7	12	X						2	1		X	7	2			12/6/05	11:30					X		
GWA-7/MW-7 Dup	12	X						2	1		X	7	2			12/6/05	12:10					X		
GWC-13/MW-13	5	X						2	1		X	2				12/6/05	09:45	X	X	X	X			
GWC-14/MW-14	5	X						2	1		X	2						X	X	X	X			DRY WELL
GWA-15/MW-15	5	X						2	1		X	2				12/5/05	13:30	X	X	X	X			
GWB-16/MW-16	5	X						2	1		X	2				12/6/05	16:30	X	X	X	X			DRY WELL
GWC-17/MW-17	5	X						2	1		X	2				12/6/05	16:30	X	X	X	X			
GWC-18/MW-18	5	X						2	1		X	2						X	X	X	X			DRY WELL

Special Detection Limits		Remarks:		TAT Priority (24 hr) <input type="checkbox"/> Rush (48 hr) <input type="checkbox"/> Rush (72 hr) <input type="checkbox"/> Normal <input checked="" type="checkbox"/>		Special Handling ACL Contact <input type="checkbox"/> Quote # <input type="checkbox"/> P. O. <input checked="" type="checkbox"/>	
Special Reporting Requirements		Lab Use Only:		Cooler Temp. 2.9 °C		QA/QC Level Level 1 <input type="checkbox"/> Level 2 <input checked="" type="checkbox"/> Other <input type="checkbox"/>	
Fax <input type="checkbox"/>		ACL Project #: 419407					

CUSTODY RECORD	Relinquished by Sampler: T. Messner		Date: 12/8/05	Time: 10:50	Received by: _____	
	Relinquished by: _____		Date: _____	Time: _____	Received by: _____	
	Relinquished by: _____		Date: 12/8/05	Time: 10:50	Received by Laboratory: P. B. Bartholomew	

[illegible]

APPENDIX C – STATISTICAL ANALYSES

Concentrations (mg/L)

Parameter: Barium

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 59

Total Non-Detect: 36

Percent Non-Detects: 61.0169%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1510	10 (100%)		7/30/2002	ND<0.01	ND<0.02
			9/24/2002	ND<0.01	ND<0.02
			10/21/2002 ~	ND<0.01	ND<0.02
			12/3/2002	ND<0.005	ND<0.01
			6/24/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/15/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02
			6/14/2005	ND<0.01	ND<0.02
			12/5/2005	ND<0.01	ND<0.02

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWA-7/MW-7	10	7 (70%)	7/30/2002 ~	ND<0.01	ND<0.02
			9/24/2002	ND<0.01	ND<0.02
			10/21/2002	ND<0.01	ND<0.02
			12/3/2002	0.015	0.015
			6/24/2003	0.036	0.036
			12/17/2003	ND<0.01	ND<0.02
			6/15/2004	ND<0.01	ND<0.02
			12/28/2004 ~	ND<0.01	ND<0.02
			6/14/2005	ND<0.01	ND<0.02
			12/6/2005 ~	0.023	0.023
GWB-6/MW-6	10	10 (100%)	7/30/2002	ND<0.01	ND<0.02
			9/24/2002	ND<0.01	ND<0.02
			10/21/2002	ND<0.01	ND<0.02
			12/3/2002	ND<0.005	ND<0.01
			6/24/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/15/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02
			6/13/2005	ND<0.01	ND<0.02
			12/5/2005	ND<0.01	ND<0.02
GWC-13/MW-1310		0 (0%)	7/30/2002	0.077	0.077
			9/24/2002	0.085	0.085
			10/21/2002	0.083	0.083
			12/3/2002	0.082	0.082
			6/24/2003 ~	0.0295	0.0295
			12/17/2003 ~	0.0325	0.0325
			6/15/2004 ~	0.034	0.034

			12/28/2004	0.043	0.043
			6/13/2005 ~	0.03	0.03
			12/6/2005	0.044	0.044
<hr/>					
GWC-14/MW-146	0 (0%)		7/30/2002	0.068	0.068
			9/24/2002 ~	0.0935	0.0935
			10/21/2002	0.064	0.064
			12/3/2002	0.106	0.106
			6/24/2003	0.051	0.051
			12/17/2003	0.189	0.189
<hr/>					
GWC-5/MW-5	10	6 (60%)	7/30/2002	ND<0.01	ND<0.02
			9/24/2002	0.02	0.02
			10/21/2002	ND<0.01	ND<0.02
			12/3/2002	0.018	0.018
			6/24/2003	ND<0.01	ND<0.02
			12/17/2003	0.142	0.142
			6/15/2004	0.04	0.04
			12/28/2004	ND<0.01	ND<0.02
			6/13/2005	ND<0.01	ND<0.02
			12/6/2005	ND<0.01	ND<0.02
<hr/>					
GWC-17/MW-172		2 (100%)	6/15/2005	ND<0.01	ND<0.02
			12/6/2005	ND<0.01	ND<0.02
<hr/>					
GWC-18/MW-181		1 (100%)	6/15/2005	ND<0.01	ND<0.02

There is 1 unused well

Well	Samples	ND	Date	Result	Original
<hr/>					
EQ-Blank	6	6 (100%)	6/24/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/15/2004	ND<0.01	ND<0.02
			12/28/2004 ~	ND<0.01	ND<0.02
			6/15/2005 ~	ND<0.01	ND<0.02
			12/6/2005	ND<0.01	ND<0.02

Shapiro-Francia Test of Normality

Parameter: Barium

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Sample Size = 59

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	0.005	-2.14441	4.59848	-0.010722
2	0.005	-1.83843	7.97829	-0.0199142
3	0.01	-1.64485	10.6838	-0.0363627
4	0.01	-1.50626	12.9526	-0.0514253
5	0.01	-1.38517	14.8713	-0.065277
6	0.01	-1.28155	16.5137	-0.0780925
7	0.01	-1.19522	17.9423	-0.0900447
8	0.01	-1.11232	19.1795	-0.101168
9	0.01	-1.03643	20.2537	-0.111532
10	0.01	-0.970094	21.1948	-0.121233
11	0.01	-0.903992	22.012	-0.130273
12	0.01	-0.841621	22.7203	-0.138689
13	0.01	-0.785774	23.3378	-0.146547
14	0.01	-0.729003	23.8692	-0.153837
15	0.01	-0.67449	24.3242	-0.160582
16	0.01	-0.624956	24.7147	-0.166832
17	0.01	-0.573953	25.0442	-0.172571
18	0.01	-0.524401	25.3191	-0.177815
19	0.01	-0.478914	25.5485	-0.182604
20	0.01	-0.431644	25.7348	-0.186921
21	0.01	-0.385321	25.8833	-0.190774
22	0.01	-0.342466	26.0006	-0.194199
23	0.01	-0.297612	26.0892	-0.197175
24	0.01	-0.253347	26.1533	-0.199708
25	0.01	-0.212137	26.1983	-0.20183
26	0.01	-0.168741	26.2268	-0.203517
27	0.01	-0.125661	26.2426	-0.204774
28	0.01	-0.0853288	26.2499	-0.205627
29	0.01	-0.0426257	26.2517	-0.206053
30	0.01	0	26.2517	-0.206053
31	0.01	0.0426257	26.2535	-0.205627
32	0.01	0.0853288	26.2608	-0.204774
33	0.01	0.125661	26.2766	-0.203517
34	0.01	0.168741	26.3051	-0.20183
35	0.01	0.212137	26.3501	-0.199708
36	0.01	0.253347	26.4142	-0.197175
37	0.015	0.297612	26.5028	-0.192711
38	0.018	0.342466	26.6201	-0.186546
39	0.02	0.385321	26.7686	-0.17884
40	0.023	0.431644	26.9549	-0.168912
41	0.0295	0.478914	27.1843	-0.154784
42	0.03	0.524401	27.4592	-0.139052
43	0.0325	0.573953	27.7887	-0.120398
44	0.034	0.624956	28.1792	-0.0991499
45	0.036	0.67449	28.6342	-0.0748683
46	0.04	0.729003	29.1656	-0.0457082

47	0.043	0.785774	29.7831	-0.0119199
48	0.044	0.841621	30.4914	0.0251115
49	0.051	0.903992	31.3086	0.0712151
50	0.064	0.970094	32.2497	0.133301
51	0.068	1.03643	33.3239	0.203779
52	0.077	1.11232	34.5611	0.289427
53	0.082	1.19522	35.9897	0.387435
54	0.083	1.28155	37.6321	0.493804
55	0.085	1.38517	39.5508	0.611544
56	0.0935	1.50626	41.8196	0.752379
57	0.106	1.64485	44.5251	0.926733
58	0.142	1.83843	47.9049	1.18779

Sample Standard Deviation = 0.0365091

Numerator = 1.41084

Denominator = 3.70349 = 58 47.9049

W Statistic = 0.38095

5% Critical value of 0.962 exceeds 0.38095

Evidence of non-normality at 95% level of significance

1% Critical value of 0.945 exceeds 0.38095

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: Barium

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-15/MW-15	7/30/2002	ND<0.01	18.5
	9/24/2002	ND<0.01	18.5
	10/21/2002 ~	ND<0.01	18.5
	12/3/2002	ND<0.005	18.5
	6/24/2003	ND<0.01	18.5
	12/17/2003	ND<0.01	18.5
	6/15/2004	ND<0.01	18.5
	12/28/2004	ND<0.01	18.5
	6/14/2005	ND<0.01	18.5
	12/5/2005	ND<0.01	18.5

Rank Sum = 185

Rank Mean = 18.5

Background Rank Sum = 185

Background Rank Mean = 18.5

Compliance Wells

Well ID	Date	Result	Rank
GWA-7/MW-7	7/30/2002 ~	ND<0.01	18.5
	9/24/2002	ND<0.01	18.5
	10/21/2002	ND<0.01	18.5
	12/3/2002	0.015	37
	6/24/2003	0.036	45
	12/17/2003	ND<0.01	18.5
	6/15/2004	ND<0.01	18.5
	12/28/2004 ~	ND<0.01	18.5
	6/14/2005	ND<0.01	18.5
	12/6/2005 ~	0.023	40

Rank Sum = 251.5

Rank Mean = 25.15

GWB-6/MW-6	7/30/2002	ND<0.01	18.5
	9/24/2002	ND<0.01	18.5
	10/21/2002	ND<0.01	18.5
	12/3/2002	ND<0.005	18.5
	6/24/2003	ND<0.01	18.5
	12/17/2003	ND<0.01	18.5
	6/15/2004	ND<0.01	18.5
	12/28/2004	ND<0.01	18.5
	6/13/2005	ND<0.01	18.5
	12/5/2005	ND<0.01	18.5

Rank Sum = 185

Rank Mean = 18.5

GWC-13/MW-137/30/2002	0.077	52
9/24/2002	0.085	55
10/21/2002	0.083	54
12/3/2002	0.082	53
6/24/2003 ~	0.0295	41
12/17/2003 ~	0.0325	43
6/15/2004 ~	0.034	44
12/28/2004	0.043	47
6/13/2005 ~	0.03	42
12/6/2005	0.044	48

Rank Sum = 479

Rank Mean = 47.9

GWC-14/MW-147/30/2002	0.068	51
9/24/2002 ~	0.0935	56
10/21/2002	0.064	50
12/3/2002	0.106	57
6/24/2003	0.051	49
12/17/2003	0.189	59

Rank Sum = 322

Rank Mean = 53.6667

GWC-5/MW-5	7/30/2002	ND<0.01	18.5
	9/24/2002	0.02	39
	10/21/2002	ND<0.01	18.5
	12/3/2002	0.018	38
	6/24/2003	ND<0.01	18.5
	12/17/2003	0.142	58
	6/15/2004	0.04	46
	12/28/2004	ND<0.01	18.5
	6/13/2005	ND<0.01	18.5
	12/6/2005	ND<0.01	18.5

Rank Sum = 292

Rank Mean = 29.2

GWC-17/MW-176/15/2005	ND<0.01	18.5
12/6/2005	ND<0.01	18.5

Rank Sum = 37

Rank Mean = 18.5

GWC-18/MW-186/15/2005	ND<0.01	18.5
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Rank Sum = 18.5

Rank Mean = 18.5

Calculation Results:

Kruskal-Wallis H Statistic = 33.3835

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 43.1903

95% Confidence comparison value is 14.0671 at 7 degrees of freedom

33.3835 > 14.0671 indicating a significant group difference at 5% significance level

43.1903 > 14.0671 indicating a significant group difference at 5% significance level when adjusted for ties

Individual Well Comparisons at 1% Significance Level per Comparison

1% Z score is 2.32634

Mean background rank is 18.5

Well	Mean Rank	Dif from Bkg	Critical Value
------	-----------	--------------	----------------

GWA-7/MW-7	25.15	6.65	17.869
GWB-6/MW-6	18.5	0	17.869
GWC-13/MW-13	47.9	29.4	17.869
GWC-14/MW-14	53.6667	35.1667	20.6333
GWC-5/MW-5	29.2	10.7	17.869
GWC-17/MW-17	18.5	0	30.95
GWC-18/MW-18	18.5	0	41.9065

**Individual Well Comparisons at Groupwise 5% Significance Level
(0.714286% Significance Level per comparison)**

0.714286% Z score is 2.45727

Mean background rank is 18.5

Well	Mean Rank	Dif from Bkg	Critical Value
GWA-7/MW-7	25.15	6.65	18.8747
GWB-6/MW-6	18.5	0	18.8747
GWC-13/MW-13	47.9	29.4	18.8747
GWC-14/MW-14	53.6667	35.1667	21.7946
GWC-5/MW-5	29.2	10.7	18.8747
GWC-17/MW-17	18.5	0	32.6919
GWC-18/MW-18	18.5	0	44.265

Concentrations (mg/L)

Parameter: Zinc

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 59

Total Non-Detect: 43

Percent Non-Detects: 72.8814%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1510	8 (80%)		7/30/2002	ND<0.01	ND<0.02
			9/24/2002	ND<0.01	ND<0.02
			10/21/2002 ~	ND<0.01	ND<0.02
			12/3/2002	ND<0.01	ND<0.02
			6/24/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/15/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02
			6/14/2005	0.029	0.029
			12/5/2005	0.042	0.042

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWA-7/MW-7	10	7 (70%)	7/30/2002 ~	ND<0.01	ND<0.02
			9/24/2002	ND<0.01	ND<0.02
			10/21/2002	ND<0.01	ND<0.02
			12/3/2002	ND<0.01	ND<0.02
			6/24/2003	0.034	0.034
			12/17/2003	0.023	0.023
			6/15/2004	ND<0.01	ND<0.02
			12/28/2004 ~	ND<0.01	ND<0.02
			6/14/2005	ND<0.01	ND<0.02
			12/6/2005 ~	0.1425	0.1425
GWB-6/MW-6	10	9 (90%)	7/30/2002	ND<0.01	ND<0.02
			9/24/2002	ND<0.01	ND<0.02
			10/21/2002	ND<0.01	ND<0.02
			12/3/2002	ND<0.01	ND<0.02
			6/24/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/15/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02
			6/13/2005	ND<0.01	ND<0.02
			12/5/2005	0.02	0.02
GWC-13/MW-1310	4 (40%)		7/30/2002	ND<0.01	ND<0.02
			9/24/2002	0.023	0.023
			10/21/2002	0.027	0.027
			12/3/2002	0.027	0.027
			6/24/2003 ~	ND<0.01	ND<0.02
			12/17/2003 ~	ND<0.01	ND<0.02
			6/15/2004 ~	ND<0.01	ND<0.02

			12/28/2004	0.044	0.044
			6/13/2005 ~	0.02	0.02
			12/6/2005	0.194	0.194
GWC-14/MW-146	5 (83.3333%)	7/30/2002	ND<0.01	ND<0.02	
		9/24/2002 ~	ND<0.01	ND<0.02	
		10/21/2002	ND<0.01	ND<0.02	
		12/3/2002	ND<0.01	ND<0.02	
		6/24/2003	ND<0.01	ND<0.02	
		12/17/2003	0.127	0.127	
GWC-5/MW-5	10	8 (80%)	7/30/2002	ND<0.01	ND<0.02
			9/24/2002	ND<0.01	ND<0.02
			10/21/2002	ND<0.01	ND<0.02
			12/3/2002	ND<0.01	ND<0.02
			6/24/2003	ND<0.01	ND<0.02
			12/17/2003	0.032	0.032
			6/15/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02
			6/13/2005	ND<0.01	ND<0.02
			12/6/2005	0.055	0.055
GWC-17/MW-172		1 (50%)	6/15/2005	ND<0.01	ND<0.02
			12/6/2005	0.096	0.096
GWC-18/MW-181		1 (100%)	6/15/2005	ND<0.01	ND<0.02

There is 1 unused well

Well	Samples	ND	Date	Result	Original
EQ-Blank	6	6 (100%)	6/24/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/15/2004	ND<0.01	ND<0.02
			12/28/2004 ~	ND<0.01	ND<0.02
			6/15/2005 ~	ND<0.01	ND<0.02
			12/6/2005	ND<0.01	ND<0.02

Shapiro-Francia Test of Normality

Parameter: Zinc

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Sample Size = 59

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	0.01	-2.14441	4.59848	-0.0214441
2	0.01	-1.83843	7.97829	-0.0398283
3	0.01	-1.64485	10.6838	-0.0562768
4	0.01	-1.50626	12.9526	-0.0713394
5	0.01	-1.38517	14.8713	-0.0851912
6	0.01	-1.28155	16.5137	-0.0980067
7	0.01	-1.19522	17.9423	-0.109959
8	0.01	-1.11232	19.1795	-0.121082
9	0.01	-1.03643	20.2537	-0.131446
10	0.01	-0.970094	21.1948	-0.141147
11	0.01	-0.903992	22.012	-0.150187
12	0.01	-0.841621	22.7203	-0.158604
13	0.01	-0.785774	23.3378	-0.166461
14	0.01	-0.729003	23.8692	-0.173751
15	0.01	-0.67449	24.3242	-0.180496
16	0.01	-0.624956	24.7147	-0.186746
17	0.01	-0.573953	25.0442	-0.192485
18	0.01	-0.524401	25.3191	-0.197729
19	0.01	-0.478914	25.5485	-0.202518
20	0.01	-0.431644	25.7348	-0.206835
21	0.01	-0.385321	25.8833	-0.210688
22	0.01	-0.342466	26.0006	-0.214113
23	0.01	-0.297612	26.0892	-0.217089
24	0.01	-0.253347	26.1533	-0.219622
25	0.01	-0.212137	26.1983	-0.221744
26	0.01	-0.168741	26.2268	-0.223431
27	0.01	-0.125661	26.2426	-0.224688
28	0.01	-0.0853288	26.2499	-0.225541
29	0.01	-0.0426257	26.2517	-0.225967
30	0.01	0	26.2517	-0.225967
31	0.01	0.0426257	26.2535	-0.225541
32	0.01	0.0853288	26.2608	-0.224688
33	0.01	0.125661	26.2766	-0.223431
34	0.01	0.168741	26.3051	-0.221744
35	0.01	0.212137	26.3501	-0.219622
36	0.01	0.253347	26.4142	-0.217089
37	0.01	0.297612	26.5028	-0.214113
38	0.01	0.342466	26.6201	-0.210688
39	0.01	0.385321	26.7686	-0.206835
40	0.01	0.431644	26.9549	-0.202518
41	0.01	0.478914	27.1843	-0.197729
42	0.01	0.524401	27.4592	-0.192485
43	0.01	0.573953	27.7887	-0.186746
44	0.02	0.624956	28.1792	-0.174247
45	0.02	0.67449	28.6342	-0.160757
46	0.023	0.729003	29.1656	-0.14399

47	0.023	0.785774	29.7831	-0.125917
48	0.027	0.841621	30.4914	-0.103193
49	0.027	0.903992	31.3086	-0.0787854
50	0.029	0.970094	32.2497	-0.0506526
51	0.032	1.03643	33.3239	-0.0174868
52	0.034	1.11232	34.5611	0.0203321
53	0.042	1.19522	35.9897	0.0705314
54	0.044	1.28155	37.6321	0.12692
55	0.055	1.38517	39.5508	0.203104
56	0.096	1.50626	41.8196	0.347705
57	0.127	1.64485	44.5251	0.556601
58	0.1425	1.83843	47.9049	0.818577

Sample Standard Deviation = 0.0345029

Numerator = 0.670068

Denominator = 3.30764 = 58 47.9049

W Statistic = 0.202582

5% Critical value of 0.962 exceeds 0.202582

Evidence of non-normality at 95% level of significance

1% Critical value of 0.945 exceeds 0.202582

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: Zinc

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-15/MW-157	30/2002	ND<0.01	22
	9/24/2002	ND<0.01	22
	10/21/2002 ~	ND<0.01	22
	12/3/2002	ND<0.01	22
	6/24/2003	ND<0.01	22
	12/17/2003	ND<0.01	22
	6/15/2004	ND<0.01	22
	12/28/2004	ND<0.01	22
	6/14/2005	0.029	50
	12/5/2005	0.042	53

Rank Sum = 279

Rank Mean = 27.9

Background Rank Sum = 279

Background Rank Mean = 27.9

Compliance Wells

Well ID	Date	Result	Rank
GWA-7/MW-7	7/30/2002 ~	ND<0.01	22
	9/24/2002	ND<0.01	22
	10/21/2002	ND<0.01	22
	12/3/2002	ND<0.01	22
	6/24/2003	0.034	52
	12/17/2003	0.023	46
	6/15/2004	ND<0.01	22
	12/28/2004 ~	ND<0.01	22
	6/14/2005	ND<0.01	22
	12/6/2005 ~	0.1425	58

Rank Sum = 310

Rank Mean = 31

GWB-6/MW-6	7/30/2002	ND<0.01	22
	9/24/2002	ND<0.01	22
	10/21/2002	ND<0.01	22
	12/3/2002	ND<0.01	22
	6/24/2003	ND<0.01	22
	12/17/2003	ND<0.01	22
	6/15/2004	ND<0.01	22
	12/28/2004	ND<0.01	22
	6/13/2005	ND<0.01	22
	12/5/2005	0.02	44

Rank Sum = 242

Rank Mean = 24.2

GWC-13/MW-137/30/2002	ND<0.01	22
9/24/2002	0.023	47
10/21/2002	0.027	48
12/3/2002	0.027	49
6/24/2003 ~	ND<0.01	22
12/17/2003 ~	ND<0.01	22
6/15/2004 ~	ND<0.01	22
12/28/2004	0.044	54
6/13/2005 ~	0.02	45
12/6/2005	0.194	59

Rank Sum = 390

Rank Mean = 39

GWC-14/MW-147/30/2002	ND<0.01	22
9/24/2002 ~	ND<0.01	22
10/21/2002	ND<0.01	22
12/3/2002	ND<0.01	22
6/24/2003	ND<0.01	22
12/17/2003	0.127	57

Rank Sum = 167

Rank Mean = 27.8333

GWC-5/MW-5 7/30/2002	ND<0.01	22
9/24/2002	ND<0.01	22
10/21/2002	ND<0.01	22
12/3/2002	ND<0.01	22
6/24/2003	ND<0.01	22
12/17/2003	0.032	51
6/15/2004	ND<0.01	22
12/28/2004	ND<0.01	22
6/13/2005	ND<0.01	22
12/6/2005	0.055	55

Rank Sum = 282

Rank Mean = 28.2

GWC-17/MW-176/15/2005	ND<0.01	22
12/6/2005	0.096	56

Rank Sum = 78

Rank Mean = 39

GWC-18/MW-186/15/2005	ND<0.01	22
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Rank Sum = 22

Rank Mean = 22

Calculation Results:

Kruskal-Wallis H Statistic = 5.0409

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 8.22367

95% Confidence comparison value is 14.0671 at 7 degrees of freedom

5.0409 < 14.0671 indicating no significant group difference at 5% significance level

8.22367 < 14.0671 indicating no significant group difference at 5% significance level when adjusted for ties

Concentrations (µg/L)

Parameter: 1,1-Dichloroethane

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 59

Total Non-Detect: 44

Percent Non-Detects: 74.5763%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1510	10 (100%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002 ~	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWA-7/MW-7	10	10 (100%)	7/30/2002 ~	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/6/2005 ~	ND<2.5	ND<5
GWB-6/MW-6	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5
GWC-13/MW-1310	1 (10%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	6	6
			10/21/2002	6	6
			12/3/2002	7	7
			6/24/2003 ~	9	9
			12/17/2003 ~	20.5	20.5
			6/15/2004 ~	18	18

			12/28/2004	16	16
			6/13/2005 ~	15	15
			12/6/2005	18	18
GWC-14/MW-146	0 (0%)		7/30/2002	13	13
			9/24/2002 ~	21	21
			10/21/2002	17	17
			12/3/2002	16	16
			6/24/2003	10	10
			12/17/2003	10	10
GWC-5/MW-5	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
GWC-17/MW-172	2 (100%)		6/15/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
GWC-18/MW-181	1 (100%)		6/15/2005	ND<2.5	ND<5

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	6	6 (100%)	6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/15/2005 ~	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
Trip Blank	3	3 (100%)	12/17/2003	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

Shapiro-Francia Test of Normality

Parameter: 1,1-Dichloroethane

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Sample Size = 59

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2.5	-2.14441	4.59848	-5.36102
2	2.5	-1.83843	7.97829	-9.95708
3	2.5	-1.64485	10.6838	-14.0692
4	2.5	-1.50626	12.9526	-17.8349
5	2.5	-1.38517	14.8713	-21.2978
6	2.5	-1.28155	16.5137	-24.5017
7	2.5	-1.19522	17.9423	-27.4897
8	2.5	-1.11232	19.1795	-30.2705
9	2.5	-1.03643	20.2537	-32.8616
10	2.5	-0.970094	21.1948	-35.2868
11	2.5	-0.903992	22.012	-37.5468
12	2.5	-0.841621	22.7203	-39.6509
13	2.5	-0.785774	23.3378	-41.6153
14	2.5	-0.729003	23.8692	-43.4378
15	2.5	-0.67449	24.3242	-45.124
16	2.5	-0.624956	24.7147	-46.6864
17	2.5	-0.573953	25.0442	-48.1213
18	2.5	-0.524401	25.3191	-49.4323
19	2.5	-0.478914	25.5485	-50.6296
20	2.5	-0.431644	25.7348	-51.7087
21	2.5	-0.385321	25.8833	-52.672
22	2.5	-0.342466	26.0006	-53.5282
23	2.5	-0.297612	26.0892	-54.2722
24	2.5	-0.253347	26.1533	-54.9056
25	2.5	-0.212137	26.1983	-55.4359
26	2.5	-0.168741	26.2268	-55.8578
27	2.5	-0.125661	26.2426	-56.1719
28	2.5	-0.0853288	26.2499	-56.3852
29	2.5	-0.0426257	26.2517	-56.4918
30	2.5	0	26.2517	-56.4918
31	2.5	0.0426257	26.2535	-56.3852
32	2.5	0.0853288	26.2608	-56.1719
33	2.5	0.125661	26.2766	-55.8578
34	2.5	0.168741	26.3051	-55.4359
35	2.5	0.212137	26.3501	-54.9056
36	2.5	0.253347	26.4142	-54.2722
37	2.5	0.297612	26.5028	-53.5282
38	2.5	0.342466	26.6201	-52.672
39	2.5	0.385321	26.7686	-51.7087
40	2.5	0.431644	26.9549	-50.6296
41	2.5	0.478914	27.1843	-49.4323
42	2.5	0.524401	27.4592	-48.1213
43	2.5	0.573953	27.7887	-46.6864
44	2.5	0.624956	28.1792	-45.124
45	6	0.67449	28.6342	-41.0771
46	6	0.729003	29.1656	-36.7031

47	7	0.785774	29.7831	-31.2027
48	9	0.841621	30.4914	-23.6281
49	10	0.903992	31.3086	-14.5882
50	10	0.970094	32.2497	-4.88721
51	13	1.03643	33.3239	8.58642
52	15	1.11232	34.5611	25.2712
53	16	1.19522	35.9897	44.3948
54	16	1.28155	37.6321	64.8996
55	17	1.38517	39.5508	88.4475
56	18	1.50626	41.8196	115.56
57	18	1.64485	44.5251	145.168
58	20.5	1.83843	47.9049	182.855

Sample Standard Deviation = 5.45524

Numerator = 33436

Denominator = 82686.7 = 58 47.9049

W Statistic = 0.40437

5% Critical value of 0.962 exceeds 0.40437

Evidence of non-normality at 95% level of significance

1% Critical value of 0.945 exceeds 0.40437

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: 1,1-Dichloroethane

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-15/MW-15	7/30/2002	ND<2.5	22.5
	9/24/2002	ND<2.5	22.5
	10/21/2002 ~	ND<2.5	22.5
	12/3/2002	ND<2.5	22.5
	6/24/2003	ND<2.5	22.5
	12/17/2003	ND<2.5	22.5
	6/15/2004	ND<2.5	22.5
	12/28/2004	ND<2.5	22.5
	6/14/2005	ND<2.5	22.5
	12/5/2005	ND<2.5	22.5

Rank Sum = 225

Rank Mean = 22.5

Background Rank Sum = 225

Background Rank Mean = 22.5

Compliance Wells

Well ID	Date	Result	Rank
GWA-7/MW-7	7/30/2002 ~	ND<2.5	22.5
	9/24/2002	ND<2.5	22.5
	10/21/2002	ND<2.5	22.5
	12/3/2002	ND<2.5	22.5
	6/24/2003	ND<2.5	22.5
	12/17/2003	ND<2.5	22.5
	6/15/2004	ND<2.5	22.5
	12/28/2004 ~	ND<2.5	22.5
	6/14/2005	ND<2.5	22.5
	12/6/2005 ~	ND<2.5	22.5

Rank Sum = 225

Rank Mean = 22.5

GWB-6/MW-6	7/30/2002	ND<2.5	22.5
	9/24/2002	ND<2.5	22.5
	10/21/2002	ND<2.5	22.5
	12/3/2002	ND<2.5	22.5
	6/24/2003	ND<2.5	22.5
	12/17/2003	ND<2.5	22.5
	6/15/2004	ND<2.5	22.5
	12/28/2004	ND<2.5	22.5
	6/13/2005	ND<2.5	22.5
	12/5/2005	ND<2.5	22.5

Rank Sum = 225

Rank Mean = 22.5

GWC-13/MW-137/30/2002	ND<2.5	22.5
9/24/2002	6	45
10/21/2002	6	46
12/3/2002	7	47
6/24/2003 ~	9	48
12/17/2003 ~	20.5	58
6/15/2004 ~	18	56
12/28/2004	16	53
6/13/2005 ~	15	52
12/6/2005	18	57

Rank Sum = 484.5

Rank Mean = 48.45

GWC-14/MW-147/30/2002	13	51
9/24/2002 ~	21	59
10/21/2002	17	55
12/3/2002	16	54
6/24/2003	10	49
12/17/2003	10	50

Rank Sum = 318

Rank Mean = 53

GWC-5/MW-5	7/30/2002	ND<2.5	22.5
	9/24/2002	ND<2.5	22.5
	10/21/2002	ND<2.5	22.5
	12/3/2002	ND<2.5	22.5
	6/24/2003	ND<2.5	22.5
	12/17/2003	ND<2.5	22.5
	6/15/2004	ND<2.5	22.5
	12/28/2004	ND<2.5	22.5
	6/13/2005	ND<2.5	22.5
	12/6/2005	ND<2.5	22.5

Rank Sum = 225

Rank Mean = 22.5

GWC-17/MW-176/15/2005	ND<2.5	22.5
12/6/2005	ND<2.5	22.5

Rank Sum = 45

Rank Mean = 22.5

GWC-18/MW-186/15/2005	ND<2.5	22.5
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Rank Sum = 22.5

Rank Mean = 22.5

Calculation Results:

Kruskal-Wallis H Statistic = 30.4975

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 52.1031

95% Confidence comparison value is 14.0671 at 7 degrees of freedom

30.4975 > 14.0671 indicating a significant group difference at 5% significance level

52.1031 > 14.0671 indicating a significant group difference at 5% significance level when adjusted for ties

Individual Well Comparisons at 1% Significance Level per Comparison

1% Z score is 2.32634

Mean background rank is 22.5

Well	Mean Rank	Dif from Bkg	Critical Value
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GWA-7/MW-7	22.5	0	17.869
GWB-6/MW-6	22.5	0	17.869
GWC-13/MW-1348.45		25.95	17.869
GWC-14/MW-1453		30.5	20.6333
GWC-5/MW-5	22.5	0	17.869
GWC-17/MW-1722.5		0	30.95
GWC-18/MW-1822.5		0	41.9065

**Individual Well Comparisons at Groupwise 5% Significance Level
(0.714286% Significance Level per comparison)**

0.714286% Z score is 2.45727

Mean background rank is 22.5

Well	Mean Rank	Dif from Bkg	Critical Value
GWA-7/MW-7	22.5	0	18.8747
GWB-6/MW-6	22.5	0	18.8747
GWC-13/MW-1348.45		25.95	18.8747
GWC-14/MW-1453		30.5	21.7946
GWC-5/MW-5	22.5	0	18.8747
GWC-17/MW-1722.5		0	32.6919
GWC-18/MW-1822.5		0	44.265

Concentrations (µg/L)

Parameter: Chlorobenzene

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 59

Total Non-Detect: 53

Percent Non-Detects: 89.8305%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-15 10	10 (100%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002 ~	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWA-7/MW-7 10	10 (100%)		7/30/2002 ~	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/6/2005 ~	ND<2.5	ND<5
GWB-6/MW-6 10	10 (100%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5
GWC-13/MW-1310	9 (90%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003 ~	ND<2.5	ND<5
			12/17/2003 ~	ND<2.5	ND<5
			6/15/2004 ~	ND<2.5	ND<5

			12/28/2004	ND<2.5	ND<5
			6/13/2005 ~	ND<2.5	ND<5
			12/6/2005	4	4
GWC-14/MW-146	1 (16.6667%)	7/30/2002	ND<2.5	ND<5	
		9/24/2002 ~	8	8	
		10/21/2002	9	9	
		12/3/2002	10	10	
		6/24/2003	7	7	
		12/17/2003	19	19	
GWC-5/MW-5	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
GWC-17/MW-172	2 (100%)	6/15/2005	ND<2.5	ND<5	
		12/6/2005	ND<2.5	ND<5	
GWC-18/MW-181	1 (100%)	6/15/2005	ND<2.5	ND<5	

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	6	6 (100%)	6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/15/2005 ~	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
Trip Blank	3	3 (100%)	12/17/2003	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

Shapiro-Francia Test of Normality

Parameter: Chlorobenzene

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Sample Size = 59

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2.5	-2.14441	4.59848	-5.36102
2	2.5	-1.83843	7.97829	-9.95708
3	2.5	-1.64485	10.6838	-14.0692
4	2.5	-1.50626	12.9526	-17.8349
5	2.5	-1.38517	14.8713	-21.2978
6	2.5	-1.28155	16.5137	-24.5017
7	2.5	-1.19522	17.9423	-27.4897
8	2.5	-1.11232	19.1795	-30.2705
9	2.5	-1.03643	20.2537	-32.8616
10	2.5	-0.970094	21.1948	-35.2868
11	2.5	-0.903992	22.012	-37.5468
12	2.5	-0.841621	22.7203	-39.6509
13	2.5	-0.785774	23.3378	-41.6153
14	2.5	-0.729003	23.8692	-43.4378
15	2.5	-0.67449	24.3242	-45.124
16	2.5	-0.624956	24.7147	-46.6864
17	2.5	-0.573953	25.0442	-48.1213
18	2.5	-0.524401	25.3191	-49.4323
19	2.5	-0.478914	25.5485	-50.6296
20	2.5	-0.431644	25.7348	-51.7087
21	2.5	-0.385321	25.8833	-52.672
22	2.5	-0.342466	26.0006	-53.5282
23	2.5	-0.297612	26.0892	-54.2722
24	2.5	-0.253347	26.1533	-54.9056
25	2.5	-0.212137	26.1983	-55.4359
26	2.5	-0.168741	26.2268	-55.8578
27	2.5	-0.125661	26.2426	-56.1719
28	2.5	-0.0853288	26.2499	-56.3852
29	2.5	-0.0426257	26.2517	-56.4918
30	2.5	0	26.2517	-56.4918
31	2.5	0.0426257	26.2535	-56.3852
32	2.5	0.0853288	26.2608	-56.1719
33	2.5	0.125661	26.2766	-55.8578
34	2.5	0.168741	26.3051	-55.4359
35	2.5	0.212137	26.3501	-54.9056
36	2.5	0.253347	26.4142	-54.2722
37	2.5	0.297612	26.5028	-53.5282
38	2.5	0.342466	26.6201	-52.672
39	2.5	0.385321	26.7686	-51.7087
40	2.5	0.431644	26.9549	-50.6296
41	2.5	0.478914	27.1843	-49.4323
42	2.5	0.524401	27.4592	-48.1213
43	2.5	0.573953	27.7887	-46.6864
44	2.5	0.624956	28.1792	-45.124
45	2.5	0.67449	28.6342	-43.4378
46	2.5	0.729003	29.1656	-41.6153

47	2.5	0.785774	29.7831	-39.6509
48	2.5	0.841621	30.4914	-37.5468
49	2.5	0.903992	31.3086	-35.2868
50	2.5	0.970094	32.2497	-32.8616
51	2.5	1.03643	33.3239	-30.2705
52	2.5	1.11232	34.5611	-27.4897
53	2.5	1.19522	35.9897	-24.5017
54	4	1.28155	37.6321	-19.3755
55	7	1.38517	39.5508	-9.67926
56	8	1.50626	41.8196	2.37082
57	9	1.64485	44.5251	17.1745
58	10	1.83843	47.9049	35.5587

Sample Standard Deviation = 2.60504

Numerator = 1264.42

Denominator = 18855.5 = 58 47.9049

W Statistic = 0.0670588

5% Critical value of 0.962 exceeds 0.0670588

Evidence of non-normality at 95% level of significance

1% Critical value of 0.945 exceeds 0.0670588

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: Chlorobenzene

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-15/MW-157	30/2002	ND<2.5	27
	9/24/2002	ND<2.5	27
	10/21/2002 ~	ND<2.5	27
	12/3/2002	ND<2.5	27
	6/24/2003	ND<2.5	27
	12/17/2003	ND<2.5	27
	6/15/2004	ND<2.5	27
	12/28/2004	ND<2.5	27
	6/14/2005	ND<2.5	27
	12/5/2005	ND<2.5	27

Rank Sum = 270

Rank Mean = 27

Background Rank Sum = 270

Background Rank Mean = 27

Compliance Wells

Well ID	Date	Result	Rank
GWA-7/MW-7	7/30/2002 ~	ND<2.5	27
	9/24/2002	ND<2.5	27
	10/21/2002	ND<2.5	27
	12/3/2002	ND<2.5	27
	6/24/2003	ND<2.5	27
	12/17/2003	ND<2.5	27
	6/15/2004	ND<2.5	27
	12/28/2004 ~	ND<2.5	27
	6/14/2005	ND<2.5	27
	12/6/2005 ~	ND<2.5	27

Rank Sum = 270

Rank Mean = 27

GWB-6/MW-6	7/30/2002	ND<2.5	27
	9/24/2002	ND<2.5	27
	10/21/2002	ND<2.5	27
	12/3/2002	ND<2.5	27
	6/24/2003	ND<2.5	27
	12/17/2003	ND<2.5	27
	6/15/2004	ND<2.5	27
	12/28/2004	ND<2.5	27
	6/13/2005	ND<2.5	27
	12/5/2005	ND<2.5	27

Rank Sum = 270

Rank Mean = 27

GWC-13/MW-137/30/2002	ND<2.5	27
9/24/2002	ND<2.5	27
10/21/2002	ND<2.5	27
12/3/2002	ND<2.5	27
6/24/2003 ~	ND<2.5	27
12/17/2003 ~	ND<2.5	27
6/15/2004 ~	ND<2.5	27
12/28/2004	ND<2.5	27
6/13/2005 ~	ND<2.5	27
12/6/2005	4	54

Rank Sum = 297

Rank Mean = 29.7

GWC-14/MW-147/30/2002	ND<2.5	27
9/24/2002 ~	8	56
10/21/2002	9	57
12/3/2002	10	58
6/24/2003	7	55
12/17/2003	19	59

Rank Sum = 312

Rank Mean = 52

GWC-5/MW-5	7/30/2002	ND<2.5	27
	9/24/2002	ND<2.5	27
	10/21/2002	ND<2.5	27
	12/3/2002	ND<2.5	27
	6/24/2003	ND<2.5	27
	12/17/2003	ND<2.5	27
	6/15/2004	ND<2.5	27
	12/28/2004	ND<2.5	27
	6/13/2005	ND<2.5	27
	12/6/2005	ND<2.5	27

Rank Sum = 270

Rank Mean = 27

GWC-17/MW-176/15/2005	ND<2.5	27
12/6/2005	ND<2.5	27

Rank Sum = 54

Rank Mean = 27

GWC-18/MW-186/15/2005	ND<2.5	27
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Rank Sum = 27

Rank Mean = 27

Calculation Results:

Kruskal-Wallis H Statistic = 11.159

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 40.5544

95% Confidence comparison value is 14.0671 at 7 degrees of freedom

11.159 < 14.0671 indicating no significant group difference at 5% significance level

40.5544 > 14.0671 indicating a significant group difference at 5% significance level when adjusted for ties

Individual Well Comparisons at 1% Significance Level per Comparison

1% Z score is 2.32634

Mean background rank is 27

Well	Mean Rank	Dif from Bkg	Critical Value
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GWA-7/MW-7	27	0	17.869
GWB-6/MW-6	27	0	17.869
GWC-13/MW-1329.7		2.7	17.869
GWC-14/MW-1452		25	20.6333
GWC-5/MW-5	27	0	17.869
GWC-17/MW-1727		0	30.95
GWC-18/MW-1827		0	41.9065

**Individual Well Comparisons at Groupwise 5% Significance Level
(0.714286% Significance Level per comparison)**

0.714286% Z score is 2.45727

Mean background rank is 27

Well	Mean Rank	Dif from Bkg	Critical Value
GWA-7/MW-7	27	0	18.8747
GWB-6/MW-6	27	0	18.8747
GWC-13/MW-1329.7		2.7	18.8747
GWC-14/MW-1452		25	21.7946
GWC-5/MW-5	27	0	18.8747
GWC-17/MW-1727		0	32.6919
GWC-18/MW-1827		0	44.265

Concentrations (µg/L)

Parameter: cis-1,2-Dichloroethene

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 59

Total Non-Detect: 47

Percent Non-Detects: 79.661%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1510	10 (100%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002 ~	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWA-7/MW-7	10	10 (100%)	7/30/2002 ~	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/6/2005 ~	ND<2.5	ND<5
GWB-6/MW-6	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5
GWC-13/MW-1310	4 (40%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003 ~	6	6
			12/17/2003 ~	14	14
			6/15/2004 ~	9.5	9.5

			12/28/2004	8	8
			6/13/2005 ~	8	8
			12/6/2005	9	9
<hr/>					
GWC-14/MW-146	0 (0%)		7/30/2002	10	10
			9/24/2002 ~	18.5	18.5
			10/21/2002	16	16
			12/3/2002	19	19
			6/24/2003	10	10
			12/17/2003	17	17
<hr/>					
GWC-5/MW-5	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
<hr/>					
GWC-17/MW-172	2	2 (100%)	6/15/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
<hr/>					
GWC-18/MW-181	1	1 (100%)	6/15/2005	ND<2.5	ND<5

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	6	6 (100%)	6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/15/2005 ~	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
Trip Blank	3	3 (100%)	12/17/2003	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

Shapiro-Francia Test of Normality

Parameter: cis-1,2-Dichloroethene

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Sample Size = 59

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2.5	-2.14441	4.59848	-5.36102
2	2.5	-1.83843	7.97829	-9.95708
3	2.5	-1.64485	10.6838	-14.0692
4	2.5	-1.50626	12.9526	-17.8349
5	2.5	-1.38517	14.8713	-21.2978
6	2.5	-1.28155	16.5137	-24.5017
7	2.5	-1.19522	17.9423	-27.4897
8	2.5	-1.11232	19.1795	-30.2705
9	2.5	-1.03643	20.2537	-32.8616
10	2.5	-0.970094	21.1948	-35.2868
11	2.5	-0.903992	22.012	-37.5468
12	2.5	-0.841621	22.7203	-39.6509
13	2.5	-0.785774	23.3378	-41.6153
14	2.5	-0.729003	23.8692	-43.4378
15	2.5	-0.67449	24.3242	-45.124
16	2.5	-0.624956	24.7147	-46.6864
17	2.5	-0.573953	25.0442	-48.1213
18	2.5	-0.524401	25.3191	-49.4323
19	2.5	-0.478914	25.5485	-50.6296
20	2.5	-0.431644	25.7348	-51.7087
21	2.5	-0.385321	25.8833	-52.672
22	2.5	-0.342466	26.0006	-53.5282
23	2.5	-0.297612	26.0892	-54.2722
24	2.5	-0.253347	26.1533	-54.9056
25	2.5	-0.212137	26.1983	-55.4359
26	2.5	-0.168741	26.2268	-55.8578
27	2.5	-0.125661	26.2426	-56.1719
28	2.5	-0.0853288	26.2499	-56.3852
29	2.5	-0.0426257	26.2517	-56.4918
30	2.5	0	26.2517	-56.4918
31	2.5	0.0426257	26.2535	-56.3852
32	2.5	0.0853288	26.2608	-56.1719
33	2.5	0.125661	26.2766	-55.8578
34	2.5	0.168741	26.3051	-55.4359
35	2.5	0.212137	26.3501	-54.9056
36	2.5	0.253347	26.4142	-54.2722
37	2.5	0.297612	26.5028	-53.5282
38	2.5	0.342466	26.6201	-52.672
39	2.5	0.385321	26.7686	-51.7087
40	2.5	0.431644	26.9549	-50.6296
41	2.5	0.478914	27.1843	-49.4323
42	2.5	0.524401	27.4592	-48.1213
43	2.5	0.573953	27.7887	-46.6864
44	2.5	0.624956	28.1792	-45.124
45	2.5	0.67449	28.6342	-43.4378
46	2.5	0.729003	29.1656	-41.6153

47	2.5	0.785774	29.7831	-39.6509
48	6	0.841621	30.4914	-34.6011
49	8	0.903992	31.3086	-27.3692
50	8	0.970094	32.2497	-19.6085
51	9	1.03643	33.3239	-10.2806
52	9.5	1.11232	34.5611	0.286491
53	10	1.19522	35.9897	12.2387
54	10	1.28155	37.6321	25.0542
55	14	1.38517	39.5508	44.4466
56	16	1.50626	41.8196	68.5468
57	17	1.64485	44.5251	96.5093
58	18.5	1.83843	47.9049	130.52

Sample Standard Deviation = 4.36551

Numerator = 17035.5

Denominator = 52951.6 = 58 47.9049

W Statistic = 0.321719

5% Critical value of 0.962 exceeds 0.321719

Evidence of non-normality at 95% level of significance

1% Critical value of 0.945 exceeds 0.321719

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: cis-1,2-Dichloroethene

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-15/MW-15	7/30/2002	ND<2.5	24
	9/24/2002	ND<2.5	24
	10/21/2002 ~	ND<2.5	24
	12/3/2002	ND<2.5	24
	6/24/2003	ND<2.5	24
	12/17/2003	ND<2.5	24
	6/15/2004	ND<2.5	24
	12/28/2004	ND<2.5	24
	6/14/2005	ND<2.5	24
	12/5/2005	ND<2.5	24

Rank Sum = 240

Rank Mean = 24

Background Rank Sum = 240

Background Rank Mean = 24

Compliance Wells

Well ID	Date	Result	Rank
GWA-7/MW-7	7/30/2002 ~	ND<2.5	24
	9/24/2002	ND<2.5	24
	10/21/2002	ND<2.5	24
	12/3/2002	ND<2.5	24
	6/24/2003	ND<2.5	24
	12/17/2003	ND<2.5	24
	6/15/2004	ND<2.5	24
	12/28/2004 ~	ND<2.5	24
	6/14/2005	ND<2.5	24
	12/6/2005 ~	ND<2.5	24

Rank Sum = 240

Rank Mean = 24

GWB-6/MW-6	7/30/2002	ND<2.5	24
	9/24/2002	ND<2.5	24
	10/21/2002	ND<2.5	24
	12/3/2002	ND<2.5	24
	6/24/2003	ND<2.5	24
	12/17/2003	ND<2.5	24
	6/15/2004	ND<2.5	24
	12/28/2004	ND<2.5	24
	6/13/2005	ND<2.5	24
	12/5/2005	ND<2.5	24

Rank Sum = 240

Rank Mean = 24

GWC-13/MW-137/30/2002	ND<2.5	24
9/24/2002	ND<2.5	24
10/21/2002	ND<2.5	24
12/3/2002	ND<2.5	24
6/24/2003 ~	6	48
12/17/2003 ~	14	55
6/15/2004 ~	9.5	52
12/28/2004	8	49
6/13/2005 ~	8	50
12/6/2005	9	51

Rank Sum = 401

Rank Mean = 40.1

GWC-14/MW-147/30/2002	10	53
9/24/2002 ~	18.5	58
10/21/2002	16	56
12/3/2002	19	59
6/24/2003	10	54
12/17/2003	17	57

Rank Sum = 337

Rank Mean = 56.1667

GWC-5/MW-5	7/30/2002	ND<2.5	24
	9/24/2002	ND<2.5	24
	10/21/2002	ND<2.5	24
	12/3/2002	ND<2.5	24
	6/24/2003	ND<2.5	24
	12/17/2003	ND<2.5	24
	6/15/2004	ND<2.5	24
	12/28/2004	ND<2.5	24
	6/13/2005	ND<2.5	24
	12/6/2005	ND<2.5	24

Rank Sum = 240

Rank Mean = 24

GWC-17/MW-176/15/2005	ND<2.5	24
12/6/2005	ND<2.5	24

Rank Sum = 48

Rank Mean = 24

GWC-18/MW-186/15/2005	ND<2.5	24
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Rank Sum = 24

Rank Mean = 24

Calculation Results:

Kruskal-Wallis H Statistic = 22.6314

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 45.7603

95% Confidence comparison value is 14.0671 at 7 degrees of freedom

22.6314 > 14.0671 indicating a significant group difference at 5% significance level

45.7603 > 14.0671 indicating a significant group difference at 5% significance level when adjusted for ties

Individual Well Comparisons at 1% Significance Level per Comparison

1% Z score is 2.32634

Mean background rank is 24

Well	Mean Rank	Dif from Bkg	Critical Value
------	-----------	--------------	----------------

GWA-7/MW-7	24	0	17.869
GWB-6/MW-6	24	0	17.869
GWC-13/MW-1340.1		16.1	17.869
GWC-14/MW-1456.1667		32.1667	20.6333
GWC-5/MW-5	24	0	17.869
GWC-17/MW-1724		0	30.95
GWC-18/MW-1824		0	41.9065

**Individual Well Comparisons at Groupwise 5% Significance Level
(0.714286% Significance Level per comparison)**

0.714286% Z score is 2.45727

Mean background rank is 24

Well	Mean Rank	Dif from Bkg	Critical Value
GWA-7/MW-7	24	0	18.8747
GWB-6/MW-6	24	0	18.8747
GWC-13/MW-1340.1		16.1	18.8747
GWC-14/MW-1456.1667		32.1667	21.7946
GWC-5/MW-5	24	0	18.8747
GWC-17/MW-1724		0	32.6919
GWC-18/MW-1824		0	44.265

Concentrations (µg/L)

Parameter: Trichlorofluoromethane

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 59

Total Non-Detect: 34

Percent Non-Detects: 57.6271%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1510	10 (100%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002 ~	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWA-7/MW-7	10	0 (0%)	7/30/2002 ~	184.5	184.5
			9/24/2002	32	32
			10/21/2002	221	221
			12/3/2002	210	210
			6/24/2003	23	23
			12/17/2003	34	34
			6/15/2004	46	46
			12/28/2004 ~	144	144
			6/14/2005	22	22
			12/6/2005 ~	86.5	86.5
GWB-6/MW-6	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5
GWC-13/MW-1310	0 (0%)		7/30/2002	300	300
			9/24/2002	381	381
			10/21/2002	348	348
			12/3/2002	391	391
			6/24/2003 ~	44	44
			12/17/2003 ~	99.5	99.5
			6/15/2004 ~	127	127

			12/28/2004	81	81
			6/13/2005 ~	45.3333	45.3333
			12/6/2005	60	60
<hr/>					
GWC-14/MW-146	1 (16.6667%)	7/30/2002	43	43	
		9/24/2002 ~	47.5	47.5	
		10/21/2002	31	31	
		12/3/2002	27	27	
		6/24/2003	5	5	
		12/17/2003	ND<2.5	ND<5	
<hr/>					
GWC-5/MW-5	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
<hr/>					
GWC-17/MW-172	2 (100%)	6/15/2005	ND<2.5	ND<5	
		12/6/2005	ND<2.5	ND<5	
<hr/>					
GWC-18/MW-181	1 (100%)	6/15/2005	ND<2.5	ND<5	

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	6	6 (100%)	6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/15/2005 ~	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
Trip Blank	3	3 (100%)	12/17/2003	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

Shapiro-Francia Test of Normality

Parameter: Trichlorofluoromethane

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Sample Size = 59

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2.5	-2.14441	4.59848	-5.36102
2	2.5	-1.83843	7.97829	-9.95708
3	2.5	-1.64485	10.6838	-14.0692
4	2.5	-1.50626	12.9526	-17.8349
5	2.5	-1.38517	14.8713	-21.2978
6	2.5	-1.28155	16.5137	-24.5017
7	2.5	-1.19522	17.9423	-27.4897
8	2.5	-1.11232	19.1795	-30.2705
9	2.5	-1.03643	20.2537	-32.8616
10	2.5	-0.970094	21.1948	-35.2868
11	2.5	-0.903992	22.012	-37.5468
12	2.5	-0.841621	22.7203	-39.6509
13	2.5	-0.785774	23.3378	-41.6153
14	2.5	-0.729003	23.8692	-43.4378
15	2.5	-0.67449	24.3242	-45.124
16	2.5	-0.624956	24.7147	-46.6864
17	2.5	-0.573953	25.0442	-48.1213
18	2.5	-0.524401	25.3191	-49.4323
19	2.5	-0.478914	25.5485	-50.6296
20	2.5	-0.431644	25.7348	-51.7087
21	2.5	-0.385321	25.8833	-52.672
22	2.5	-0.342466	26.0006	-53.5282
23	2.5	-0.297612	26.0892	-54.2722
24	2.5	-0.253347	26.1533	-54.9056
25	2.5	-0.212137	26.1983	-55.4359
26	2.5	-0.168741	26.2268	-55.8578
27	2.5	-0.125661	26.2426	-56.1719
28	2.5	-0.0853288	26.2499	-56.3852
29	2.5	-0.0426257	26.2517	-56.4918
30	2.5	0	26.2517	-56.4918
31	2.5	0.0426257	26.2535	-56.3852
32	2.5	0.0853288	26.2608	-56.1719
33	2.5	0.125661	26.2766	-55.8578
34	2.5	0.168741	26.3051	-55.4359
35	5	0.212137	26.3501	-54.3752
36	22	0.253347	26.4142	-48.8016
37	23	0.297612	26.5028	-41.9565
38	27	0.342466	26.6201	-32.71
39	31	0.385321	26.7686	-20.765
40	32	0.431644	26.9549	-6.95241
41	34	0.478914	27.1843	9.33066
42	43	0.524401	27.4592	31.8799
43	44	0.573953	27.7887	57.1338
44	45.3333	0.624956	28.1792	85.4651
45	46	0.67449	28.6342	116.492
46	47.5	0.729003	29.1656	151.119

47	60	0.785774	29.7831	198.266
48	81	0.841621	30.4914	266.437
49	86.5	0.903992	31.3086	344.632
50	99.5	0.970094	32.2497	441.157
51	127	1.03643	33.3239	572.784
52	144	1.11232	34.5611	732.958
53	184.5	1.19522	35.9897	953.476
54	210	1.28155	37.6321	1222.6
55	221	1.38517	39.5508	1528.73
56	300	1.50626	41.8196	1980.6
57	348	1.64485	44.5251	2553.01
58	381	1.83843	47.9049	3253.45

Sample Standard Deviation = 97.4728

Numerator = 1.05849e+007

Denominator = 2.63982e+007 = 58 47.9049

W Statistic = 0.400972

5% Critical value of 0.962 exceeds 0.400972

Evidence of non-normality at 95% level of significance

1% Critical value of 0.945 exceeds 0.400972

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: Trichlorofluoromethane

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-15/MW-15	7/30/2002	ND<2.5	17.5
	9/24/2002	ND<2.5	17.5
	10/21/2002 ~	ND<2.5	17.5
	12/3/2002	ND<2.5	17.5
	6/24/2003	ND<2.5	17.5
	12/17/2003	ND<2.5	17.5
	6/15/2004	ND<2.5	17.5
	12/28/2004	ND<2.5	17.5
	6/14/2005	ND<2.5	17.5
	12/5/2005	ND<2.5	17.5

Rank Sum = 175

Rank Mean = 17.5

Background Rank Sum = 175

Background Rank Mean = 17.5

Compliance Wells

Well ID	Date	Result	Rank
GWA-7/MW-7	7/30/2002 ~	184.5	53
	9/24/2002	32	40
	10/21/2002	221	55
	12/3/2002	210	54
	6/24/2003	23	37
	12/17/2003	34	41
	6/15/2004	46	45
	12/28/2004 ~	144	52
	6/14/2005	22	36
	12/6/2005 ~	86.5	49

Rank Sum = 462

Rank Mean = 46.2

GWB-6/MW-6	7/30/2002	ND<2.5	17.5
	9/24/2002	ND<2.5	17.5
	10/21/2002	ND<2.5	17.5
	12/3/2002	ND<2.5	17.5
	6/24/2003	ND<2.5	17.5
	12/17/2003	ND<2.5	17.5
	6/15/2004	ND<2.5	17.5
	12/28/2004	ND<2.5	17.5
	6/13/2005	ND<2.5	17.5
	12/5/2005	ND<2.5	17.5

Rank Sum = 175

Rank Mean = 17.5

GWC-13/MW-137/30/2002	300	56
9/24/2002	381	58
10/21/2002	348	57
12/3/2002	391	59
6/24/2003 ~	44	43
12/17/2003 ~	99.5	50
6/15/2004 ~	127	51
12/28/2004	81	48
6/13/2005 ~	45.3333	44
12/6/2005	60	47

Rank Sum = 513

Rank Mean = 51.3

GWC-14/MW-147/30/2002	43	42
9/24/2002 ~	47.5	46
10/21/2002	31	39
12/3/2002	27	38
6/24/2003	5	35
12/17/2003	ND<2.5	17.5

Rank Sum = 217.5

Rank Mean = 36.25

GWC-5/MW-5	7/30/2002	ND<2.5	17.5
	9/24/2002	ND<2.5	17.5
	10/21/2002	ND<2.5	17.5
	12/3/2002	ND<2.5	17.5
	6/24/2003	ND<2.5	17.5
	12/17/2003	ND<2.5	17.5
	6/15/2004	ND<2.5	17.5
	12/28/2004	ND<2.5	17.5
	6/13/2005	ND<2.5	17.5
	12/6/2005	ND<2.5	17.5

Rank Sum = 175

Rank Mean = 17.5

GWC-17/MW-176/15/2005	ND<2.5	17.5
12/6/2005	ND<2.5	17.5

Rank Sum = 35

Rank Mean = 17.5

GWC-18/MW-186/15/2005	ND<2.5	17.5
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Rank Sum = 17.5

Rank Mean = 17.5

Calculation Results:

Kruskal-Wallis H Statistic = 42.5489

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 52.6115

95% Confidence comparison value is 14.0671 at 7 degrees of freedom

42.5489 > 14.0671 indicating a significant group difference at 5% significance level

52.6115 > 14.0671 indicating a significant group difference at 5% significance level when adjusted for ties

Individual Well Comparisons at 1% Significance Level per Comparison

1% Z score is 2.32634

Mean background rank is 17.5

Well	Mean Rank	Dif from Bkg	Critical Value
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GWA-7/MW-7	46.2	28.7	17.869
GWB-6/MW-6	17.5	0	17.869
GWC-13/MW-13	51.3	33.8	17.869
GWC-14/MW-14	36.25	18.75	20.6333
GWC-5/MW-5	17.5	0	17.869
GWC-17/MW-17	17.5	0	30.95
GWC-18/MW-18	17.5	0	41.9065

**Individual Well Comparisons at Groupwise 5% Significance Level
(0.714286% Significance Level per comparison)**

0.714286% Z score is 2.45727

Mean background rank is 17.5

Well	Mean Rank	Dif from Bkg	Critical Value
GWA-7/MW-7	46.2	28.7	18.8747
GWB-6/MW-6	17.5	0	18.8747
GWC-13/MW-13	51.3	33.8	18.8747
GWC-14/MW-14	36.25	18.75	21.7946
GWC-5/MW-5	17.5	0	18.8747
GWC-17/MW-17	17.5	0	32.6919
GWC-18/MW-18	17.5	0	44.265

Concentrations (µg/L)

Parameter: Vinyl chloride

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 59

Total Non-Detect: 55

Percent Non-Detects: 93.2203%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1510	10 (100%)		7/30/2002	ND<1	ND<2
			9/24/2002	ND<1	ND<2
			10/21/2002 ~	ND<1	ND<2
			12/3/2002	ND<1	ND<2
			6/24/2003	ND<1	ND<2
			12/17/2003	ND<1	ND<2
			6/15/2004	ND<1	ND<2
			12/28/2004	ND<1	ND<2
			6/14/2005	ND<1	ND<2
			12/5/2005	ND<1	ND<2

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWA-7/MW-7	10	10 (100%)	7/30/2002 ~	ND<1	ND<2
			9/24/2002	ND<1	ND<2
			10/21/2002	ND<1	ND<2
			12/3/2002	ND<1	ND<2
			6/24/2003	ND<1	ND<2
			12/17/2003	ND<1	ND<2
			6/15/2004	ND<1	ND<2
			12/28/2004 ~	ND<1	ND<2
			6/14/2005	ND<1	ND<2
			12/6/2005 ~	ND<1	ND<2
GWB-6/MW-6	10	10 (100%)	7/30/2002	ND<1	ND<2
			9/24/2002	ND<1	ND<2
			10/21/2002	ND<1	ND<2
			12/3/2002	ND<1	ND<2
			6/24/2003	ND<1	ND<2
			12/17/2003	ND<1	ND<2
			6/15/2004	ND<1	ND<2
			12/28/2004	ND<1	ND<2
			6/13/2005	ND<1	ND<2
			12/5/2005	ND<1	ND<2
GWC-13/MW-1310	8 (80%)		7/30/2002	ND<1	ND<2
			9/24/2002	ND<1	ND<2
			10/21/2002	ND<1	ND<2
			12/3/2002	ND<1	ND<2
			6/24/2003 ~	ND<1	ND<2
			12/17/2003 ~	ND<1	ND<2
			6/15/2004 ~	2	2

			12/28/2004	ND<1	ND<2
			6/13/2005 ~	ND<1	ND<2
			12/6/2005	1	1
<hr/>					
GWC-14/MW-146	4 (66.6667%)		7/30/2002	ND<1	ND<2
			9/24/2002 ~	2.5	2.5
			10/21/2002	ND<1	ND<2
			12/3/2002	4	4
			6/24/2003	ND<1	ND<2
			12/17/2003	ND<1	ND<2
<hr/>					
GWC-5/MW-5	10	10 (100%)	7/30/2002	ND<1	ND<2
			9/24/2002	ND<1	ND<2
			10/21/2002	ND<1	ND<2
			12/3/2002	ND<1	ND<2
			6/24/2003	ND<1	ND<2
			12/17/2003	ND<1	ND<2
			6/15/2004	ND<1	ND<2
			12/28/2004	ND<1	ND<2
			6/13/2005	ND<1	ND<2
			12/6/2005	ND<1	ND<2
<hr/>					
GWC-17/MW-172	2 (100%)		6/15/2005	ND<1	ND<2
			12/6/2005	ND<1	ND<2
<hr/>					
GWC-18/MW-181	1 (100%)		6/15/2005	ND<1	ND<2

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	6	6 (100%)	6/24/2003	ND<1	ND<2
			12/17/2003	ND<1	ND<2
			6/15/2004	ND<1	ND<2
			12/28/2004 ~	ND<1	ND<2
			6/15/2005 ~	ND<1	ND<2
			12/6/2005	ND<1	ND<2
Trip Blank	3	3 (100%)	12/17/2003	ND<1	ND<2
			6/13/2005	ND<1	ND<2
			12/5/2005	ND<1	ND<2

Shapiro-Francia Test of Normality

Parameter: Vinyl chloride

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Sample Size = 59

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	1	-2.14441	4.59848	-2.14441
2	1	-1.83843	7.97829	-3.98283
3	1	-1.64485	10.6838	-5.62768
4	1	-1.50626	12.9526	-7.13394
5	1	-1.38517	14.8713	-8.51912
6	1	-1.28155	16.5137	-9.80067
7	1	-1.19522	17.9423	-10.9959
8	1	-1.11232	19.1795	-12.1082
9	1	-1.03643	20.2537	-13.1446
10	1	-0.970094	21.1948	-14.1147
11	1	-0.903992	22.012	-15.0187
12	1	-0.841621	22.7203	-15.8604
13	1	-0.785774	23.3378	-16.6461
14	1	-0.729003	23.8692	-17.3751
15	1	-0.67449	24.3242	-18.0496
16	1	-0.624956	24.7147	-18.6746
17	1	-0.573953	25.0442	-19.2485
18	1	-0.524401	25.3191	-19.7729
19	1	-0.478914	25.5485	-20.2518
20	1	-0.431644	25.7348	-20.6835
21	1	-0.385321	25.8833	-21.0688
22	1	-0.342466	26.0006	-21.4113
23	1	-0.297612	26.0892	-21.7089
24	1	-0.253347	26.1533	-21.9622
25	1	-0.212137	26.1983	-22.1744
26	1	-0.168741	26.2268	-22.3431
27	1	-0.125661	26.2426	-22.4688
28	1	-0.0853288	26.2499	-22.5541
29	1	-0.0426257	26.2517	-22.5967
30	1	0	26.2517	-22.5967
31	1	0.0426257	26.2535	-22.5541
32	1	0.0853288	26.2608	-22.4688
33	1	0.125661	26.2766	-22.3431
34	1	0.168741	26.3051	-22.1744
35	1	0.212137	26.3501	-21.9622
36	1	0.253347	26.4142	-21.7089
37	1	0.297612	26.5028	-21.4113
38	1	0.342466	26.6201	-21.0688
39	1	0.385321	26.7686	-20.6835
40	1	0.431644	26.9549	-20.2518
41	1	0.478914	27.1843	-19.7729
42	1	0.524401	27.4592	-19.2485
43	1	0.573953	27.7887	-18.6746
44	1	0.624956	28.1792	-18.0496
45	1	0.67449	28.6342	-17.3751
46	1	0.729003	29.1656	-16.6461

47	1	0.785774	29.7831	-15.8604
48	1	0.841621	30.4914	-15.0187
49	1	0.903992	31.3086	-14.1147
50	1	0.970094	32.2497	-13.1446
51	1	1.03643	33.3239	-12.1082
52	1	1.11232	34.5611	-10.9959
53	1	1.19522	35.9897	-9.80067
54	1	1.28155	37.6321	-8.51912
55	1	1.38517	39.5508	-7.13394
56	1	1.50626	41.8196	-5.62768
57	2	1.64485	44.5251	-2.33798
58	2.5	1.83843	47.9049	2.25808

Sample Standard Deviation = 0.449852

Numerator = 5.09894

Denominator = 562.274 = 58 47.9049

W Statistic = 0.00906844

5% Critical value of 0.962 exceeds 0.00906844

Evidence of non-normality at 95% level of significance

1% Critical value of 0.945 exceeds 0.00906844

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: Vinyl chloride

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-15/MW-15	7/30/2002	ND<1	28
	9/24/2002	ND<1	28
	10/21/2002 ~	ND<1	28
	12/3/2002	ND<1	28
	6/24/2003	ND<1	28
	12/17/2003	ND<1	28
	6/15/2004	ND<1	28
	12/28/2004	ND<1	28
	6/14/2005	ND<1	28
	12/5/2005	ND<1	28

Rank Sum = 280

Rank Mean = 28

Background Rank Sum = 280

Background Rank Mean = 28

Compliance Wells

Well ID	Date	Result	Rank
GWA-7/MW-7	7/30/2002 ~	ND<1	28
	9/24/2002	ND<1	28
	10/21/2002	ND<1	28
	12/3/2002	ND<1	28
	6/24/2003	ND<1	28
	12/17/2003	ND<1	28
	6/15/2004	ND<1	28
	12/28/2004 ~	ND<1	28
	6/14/2005	ND<1	28
	12/6/2005 ~	ND<1	28

Rank Sum = 280

Rank Mean = 28

GWB-6/MW-6	7/30/2002	ND<1	28
	9/24/2002	ND<1	28
	10/21/2002	ND<1	28
	12/3/2002	ND<1	28
	6/24/2003	ND<1	28
	12/17/2003	ND<1	28
	6/15/2004	ND<1	28
	12/28/2004	ND<1	28
	6/13/2005	ND<1	28
	12/5/2005	ND<1	28

Rank Sum = 280

Rank Mean = 28

GWC-13/MW-137/30/2002	ND<1	28
9/24/2002	ND<1	28
10/21/2002	ND<1	28
12/3/2002	ND<1	28
6/24/2003 ~	ND<1	28
12/17/2003 ~	ND<1	28
6/15/2004 ~	2	57
12/28/2004	ND<1	28
6/13/2005 ~	ND<1	28
12/6/2005	1	56

Rank Sum = 337

Rank Mean = 33.7

GWC-14/MW-147/30/2002	ND<1	28
9/24/2002 ~	2.5	58
10/21/2002	ND<1	28
12/3/2002	4	59
6/24/2003	ND<1	28
12/17/2003	ND<1	28

Rank Sum = 229

Rank Mean = 38.1667

GWC-5/MW-5	7/30/2002	ND<1	28
	9/24/2002	ND<1	28
	10/21/2002	ND<1	28
	12/3/2002	ND<1	28
	6/24/2003	ND<1	28
	12/17/2003	ND<1	28
	6/15/2004	ND<1	28
	12/28/2004	ND<1	28
	6/13/2005	ND<1	28
	12/6/2005	ND<1	28

Rank Sum = 280

Rank Mean = 28

GWC-17/MW-176/15/2005	ND<1	28
12/6/2005	ND<1	28

Rank Sum = 56

Rank Mean = 28

GWC-18/MW-186/15/2005	ND<1	28
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Rank Sum = 28

Rank Mean = 28

Calculation Results:

Kruskal-Wallis H Statistic = 2.40362

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 12.6541

95% Confidence comparison value is 14.0671 at 7 degrees of freedom

2.40362 < 14.0671 indicating no significant group difference at 5% significance level

12.6541 < 14.0671 indicating no significant group difference at 5% significance level when adjusted for ties

Concentrations (µg/L)

Parameter: Benzene

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 59

Total Non-Detect: 58

Percent Non-Detects: 98.3051%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1510	10 (100%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002 ~	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWA-7/MW-7	10	10 (100%)	7/30/2002 ~	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/6/2005 ~	ND<2.5	ND<5
GWB-6/MW-6	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5
GWC-13/MW-1310	9 (90%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003 ~	ND<2.5	ND<5
			12/17/2003 ~	ND<2.5	ND<5
			6/15/2004 ~	ND<2.5	ND<5

			12/28/2004	ND<2.5	ND<5
			6/13/2005 ~	ND<2.5	ND<5
			12/6/2005	5	5
<hr/>					
GWC-14/MW-146	6 (100%)		7/30/2002	ND<2.5	ND<5
			9/24/2002 ~	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
<hr/>					
GWC-5/MW-5	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
<hr/>					
GWC-17/MW-172	2	2 (100%)	6/15/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
<hr/>					
GWC-18/MW-181	1	1 (100%)	6/15/2005	ND<2.5	ND<5

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	6	6 (100%)	6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/15/2005 ~	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
Trip Blank	3	3 (100%)	12/17/2003	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

Shapiro-Francia Test of Normality

Parameter: Benzene

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Sample Size = 59

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2.5	-2.14441	4.59848	-5.36102
2	2.5	-1.83843	7.97829	-9.95708
3	2.5	-1.64485	10.6838	-14.0692
4	2.5	-1.50626	12.9526	-17.8349
5	2.5	-1.38517	14.8713	-21.2978
6	2.5	-1.28155	16.5137	-24.5017
7	2.5	-1.19522	17.9423	-27.4897
8	2.5	-1.11232	19.1795	-30.2705
9	2.5	-1.03643	20.2537	-32.8616
10	2.5	-0.970094	21.1948	-35.2868
11	2.5	-0.903992	22.012	-37.5468
12	2.5	-0.841621	22.7203	-39.6509
13	2.5	-0.785774	23.3378	-41.6153
14	2.5	-0.729003	23.8692	-43.4378
15	2.5	-0.67449	24.3242	-45.124
16	2.5	-0.624956	24.7147	-46.6864
17	2.5	-0.573953	25.0442	-48.1213
18	2.5	-0.524401	25.3191	-49.4323
19	2.5	-0.478914	25.5485	-50.6296
20	2.5	-0.431644	25.7348	-51.7087
21	2.5	-0.385321	25.8833	-52.672
22	2.5	-0.342466	26.0006	-53.5282
23	2.5	-0.297612	26.0892	-54.2722
24	2.5	-0.253347	26.1533	-54.9056
25	2.5	-0.212137	26.1983	-55.4359
26	2.5	-0.168741	26.2268	-55.8578
27	2.5	-0.125661	26.2426	-56.1719
28	2.5	-0.0853288	26.2499	-56.3852
29	2.5	-0.0426257	26.2517	-56.4918
30	2.5	0	26.2517	-56.4918
31	2.5	0.0426257	26.2535	-56.3852
32	2.5	0.0853288	26.2608	-56.1719
33	2.5	0.125661	26.2766	-55.8578
34	2.5	0.168741	26.3051	-55.4359
35	2.5	0.212137	26.3501	-54.9056
36	2.5	0.253347	26.4142	-54.2722
37	2.5	0.297612	26.5028	-53.5282
38	2.5	0.342466	26.6201	-52.672
39	2.5	0.385321	26.7686	-51.7087
40	2.5	0.431644	26.9549	-50.6296
41	2.5	0.478914	27.1843	-49.4323
42	2.5	0.524401	27.4592	-48.1213
43	2.5	0.573953	27.7887	-46.6864
44	2.5	0.624956	28.1792	-45.124
45	2.5	0.67449	28.6342	-43.4378
46	2.5	0.729003	29.1656	-41.6153

47	2.5	0.785774	29.7831	-39.6509
48	2.5	0.841621	30.4914	-37.5468
49	2.5	0.903992	31.3086	-35.2868
50	2.5	0.970094	32.2497	-32.8616
51	2.5	1.03643	33.3239	-30.2705
52	2.5	1.11232	34.5611	-27.4897
53	2.5	1.19522	35.9897	-24.5017
54	2.5	1.28155	37.6321	-21.2978
55	2.5	1.38517	39.5508	-17.8349
56	2.5	1.50626	41.8196	-14.0692
57	2.5	1.64485	44.5251	-9.95708
58	2.5	1.83843	47.9049	-5.36102

Sample Standard Deviation = 0.325472

Numerator = 28.7405

Denominator = 294.331 = 58 47.9049

W Statistic = 0.0976468

5% Critical value of 0.962 exceeds 0.0976468

Evidence of non-normality at 95% level of significance

1% Critical value of 0.945 exceeds 0.0976468

Evidence of non-normality at 99% level of significance

Kruskal-Wallis Non-Parametric Test

Parameter: Benzene

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
GWA-15/MW-157	30/2002	ND<2.5	29.5
	9/24/2002	ND<2.5	29.5
	10/21/2002 ~	ND<2.5	29.5
	12/3/2002	ND<2.5	29.5
	6/24/2003	ND<2.5	29.5
	12/17/2003	ND<2.5	29.5
	6/15/2004	ND<2.5	29.5
	12/28/2004	ND<2.5	29.5
	6/14/2005	ND<2.5	29.5
	12/5/2005	ND<2.5	29.5

Rank Sum = 295

Rank Mean = 29.5

Background Rank Sum = 295

Background Rank Mean = 29.5

Compliance Wells

Well ID	Date	Result	Rank
GWA-7/MW-7	7/30/2002 ~	ND<2.5	29.5
	9/24/2002	ND<2.5	29.5
	10/21/2002	ND<2.5	29.5
	12/3/2002	ND<2.5	29.5
	6/24/2003	ND<2.5	29.5
	12/17/2003	ND<2.5	29.5
	6/15/2004	ND<2.5	29.5
	12/28/2004 ~	ND<2.5	29.5
	6/14/2005	ND<2.5	29.5
	12/6/2005 ~	ND<2.5	29.5

Rank Sum = 295

Rank Mean = 29.5

GWB-6/MW-6	7/30/2002	ND<2.5	29.5
	9/24/2002	ND<2.5	29.5
	10/21/2002	ND<2.5	29.5
	12/3/2002	ND<2.5	29.5
	6/24/2003	ND<2.5	29.5
	12/17/2003	ND<2.5	29.5
	6/15/2004	ND<2.5	29.5
	12/28/2004	ND<2.5	29.5
	6/13/2005	ND<2.5	29.5
	12/5/2005	ND<2.5	29.5

Rank Sum = 295

Rank Mean = 29.5

GWC-13/MW-137/30/2002	ND<2.5	29.5
9/24/2002	ND<2.5	29.5
10/21/2002	ND<2.5	29.5
12/3/2002	ND<2.5	29.5
6/24/2003 ~	ND<2.5	29.5
12/17/2003 ~	ND<2.5	29.5
6/15/2004 ~	ND<2.5	29.5
12/28/2004	ND<2.5	29.5
6/13/2005 ~	ND<2.5	29.5
12/6/2005	5	59

Rank Sum = 324.5

Rank Mean = 32.45

GWC-14/MW-147/30/2002	ND<2.5	29.5
9/24/2002 ~	ND<2.5	29.5
10/21/2002	ND<2.5	29.5
12/3/2002	ND<2.5	29.5
6/24/2003	ND<2.5	29.5
12/17/2003	ND<2.5	29.5

Rank Sum = 177

Rank Mean = 29.5

GWC-5/MW-5	7/30/2002	ND<2.5	29.5
	9/24/2002	ND<2.5	29.5
	10/21/2002	ND<2.5	29.5
	12/3/2002	ND<2.5	29.5
	6/24/2003	ND<2.5	29.5
	12/17/2003	ND<2.5	29.5
	6/15/2004	ND<2.5	29.5
	12/28/2004	ND<2.5	29.5
	6/13/2005	ND<2.5	29.5
	12/6/2005	ND<2.5	29.5

Rank Sum = 295

Rank Mean = 29.5

GWC-17/MW-176/15/2005	ND<2.5	29.5
12/6/2005	ND<2.5	29.5

Rank Sum = 59

Rank Mean = 29.5

GWC-18/MW-186/15/2005	ND<2.5	29.5
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Rank Sum = 29.5

Rank Mean = 29.5

Calculation Results:

Kruskal-Wallis H Statistic = 0.245

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 4.9

95% Confidence comparison value is 14.0671 at 7 degrees of freedom

0.245 < 14.0671 indicating no significant group difference at 5% significance level

4.9 < 14.0671 indicating no significant group difference at 5% significance level when adjusted for ties

Concentrations (µg/L)

Parameter: Trichloroethene

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 59

Total Non-Detect: 57

Percent Non-Detects: 96.6102%

Total Background Samples: 10

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1510	10 (100%)		7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002 ~	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWA-7/MW-7	10	9 (90%)	7/30/2002 ~	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	13	13
			12/28/2004 ~	ND<2.5	ND<5
			6/14/2005	ND<2.5	ND<5
			12/6/2005 ~	ND<2.5	ND<5
GWB-6/MW-6	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5
GWC-13/MW-1310		9 (90%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003 ~	ND<2.5	ND<5
			12/17/2003 ~	ND<2.5	ND<5
			6/15/2004 ~	ND<2.5	ND<5

			12/28/2004	ND<2.5	ND<5
			6/13/2005 ~	ND<2.5	ND<5
			12/6/2005	5	5
<hr/>					
GWC-14/MW-146	6 (100%)	7/30/2002	ND<2.5	ND<5	
		9/24/2002 ~	ND<2.5	ND<5	
		10/21/2002	ND<2.5	ND<5	
		12/3/2002	ND<2.5	ND<5	
		6/24/2003	ND<2.5	ND<5	
		12/17/2003	ND<2.5	ND<5	
<hr/>					
GWC-5/MW-5	10	10 (100%)	7/30/2002	ND<2.5	ND<5
			9/24/2002	ND<2.5	ND<5
			10/21/2002	ND<2.5	ND<5
			12/3/2002	ND<2.5	ND<5
			6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
<hr/>					
GWC-17/MW-172	2 (100%)	6/15/2005	ND<2.5	ND<5	
		12/6/2005	ND<2.5	ND<5	
<hr/>					
GWC-18/MW-181	1 (100%)	6/15/2005	ND<2.5	ND<5	

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	6	6 (100%)	6/24/2003	ND<2.5	ND<5
			12/17/2003	ND<2.5	ND<5
			6/15/2004	ND<2.5	ND<5
			12/28/2004 ~	ND<2.5	ND<5
			6/15/2005 ~	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
Trip Blank	3	3 (100%)	12/17/2003	ND<2.5	ND<5
			6/13/2005	ND<2.5	ND<5
			12/5/2005	ND<2.5	ND<5

Shapiro-Francia Test of Normality

Parameter: Trichloroethene

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Sample Size = 59

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2.5	-2.14441	4.59848	-5.36102
2	2.5	-1.83843	7.97829	-9.95708
3	2.5	-1.64485	10.6838	-14.0692
4	2.5	-1.50626	12.9526	-17.8349
5	2.5	-1.38517	14.8713	-21.2978
6	2.5	-1.28155	16.5137	-24.5017
7	2.5	-1.19522	17.9423	-27.4897
8	2.5	-1.11232	19.1795	-30.2705
9	2.5	-1.03643	20.2537	-32.8616
10	2.5	-0.970094	21.1948	-35.2868
11	2.5	-0.903992	22.012	-37.5468
12	2.5	-0.841621	22.7203	-39.6509
13	2.5	-0.785774	23.3378	-41.6153
14	2.5	-0.729003	23.8692	-43.4378
15	2.5	-0.67449	24.3242	-45.124
16	2.5	-0.624956	24.7147	-46.6864
17	2.5	-0.573953	25.0442	-48.1213
18	2.5	-0.524401	25.3191	-49.4323
19	2.5	-0.478914	25.5485	-50.6296
20	2.5	-0.431644	25.7348	-51.7087
21	2.5	-0.385321	25.8833	-52.672
22	2.5	-0.342466	26.0006	-53.5282
23	2.5	-0.297612	26.0892	-54.2722
24	2.5	-0.253347	26.1533	-54.9056
25	2.5	-0.212137	26.1983	-55.4359
26	2.5	-0.168741	26.2268	-55.8578
27	2.5	-0.125661	26.2426	-56.1719
28	2.5	-0.0853288	26.2499	-56.3852
29	2.5	-0.0426257	26.2517	-56.4918
30	2.5	0	26.2517	-56.4918
31	2.5	0.0426257	26.2535	-56.3852
32	2.5	0.0853288	26.2608	-56.1719
33	2.5	0.125661	26.2766	-55.8578
34	2.5	0.168741	26.3051	-55.4359
35	2.5	0.212137	26.3501	-54.9056
36	2.5	0.253347	26.4142	-54.2722
37	2.5	0.297612	26.5028	-53.5282
38	2.5	0.342466	26.6201	-52.672
39	2.5	0.385321	26.7686	-51.7087
40	2.5	0.431644	26.9549	-50.6296
41	2.5	0.478914	27.1843	-49.4323
42	2.5	0.524401	27.4592	-48.1213
43	2.5	0.573953	27.7887	-46.6864
44	2.5	0.624956	28.1792	-45.124
45	2.5	0.67449	28.6342	-43.4378
46	2.5	0.729003	29.1656	-41.6153

47	2.5	0.785774	29.7831	-39.6509
48	2.5	0.841621	30.4914	-37.5468
49	2.5	0.903992	31.3086	-35.2868
50	2.5	0.970094	32.2497	-32.8616
51	2.5	1.03643	33.3239	-30.2705
52	2.5	1.11232	34.5611	-27.4897
53	2.5	1.19522	35.9897	-24.5017
54	2.5	1.28155	37.6321	-21.2978
55	2.5	1.38517	39.5508	-17.8349
56	2.5	1.50626	41.8196	-14.0692
57	2.5	1.64485	44.5251	-9.95708
58	5	1.83843	47.9049	-0.764953

Sample Standard Deviation = 1.39973

Numerator = 0.585153

Denominator = 5443.7 = 58 47.9049

W Statistic = 0.000107492

5% Critical value of 0.962 exceeds 0.000107492

Evidence of non-normality at 95% level of significance

1% Critical value of 0.945 exceeds 0.000107492

Evidence of non-normality at 99% level of significance