

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



September 28, 2006

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Vogtle Electric Generating Plant Landfill #2
Solid Waste Permit No. 017-006D(L)(I)

Mr. Jeff Cown
Program Manager – Solid Waste Management Program
Georgia Environmental Protection Division
4244 International Parkway, Suite 104
Atlanta, GA 30354

Dear Mr. Cown:

Pursuant to EPD Solid Waste Rule 391-3-4-.14, and in accordance with the Plant Vogtle Landfill #2 approved landfill groundwater monitoring program, Southern Nuclear is submitting the June, 2006 semi-annual groundwater monitoring report. This report was prepared for Southern Nuclear by the Dextra Group and was completed in September, 2006. There were no statistically significant detections found during this sampling event.

Please find enclosed the June, 2006 landfill groundwater monitoring report for this sampling period. If you have any questions regarding this information, please contact Mickey Perry at (205) 992-6994.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Perry for J. M. Godfrey".

J. M. Godfrey
Manager – Environmental Affairs

JMG/MEP:ahl

Enclosure

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Georgia Environmental Protection Division
Mr. Jeff Cown

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

Mr. Jeff Cown

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

PREPARED FOR:

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

PREPARED BY:



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1 – Introduction

This report presents the results of groundwater sampling conducted in June 2006 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 # 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 June 2006 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 0.013 (shown on *Figure 1* for June 2006) 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 0.032 milligrams per liter (mg/l) in well GWC-11. The maximum contaminant level (MCL) for barium is 2.0 mg/l. Zinc was detected at 0.122 mg/l in well

GWA-2, 0.077 mg/l in well GWC-3, 0.128 mg/l in well GWB-4 and 0.034 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
	12/5/2005			40.40					209.01
	6/6/2006			40.35					209.06
GWC-3/MW-3	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
	12/5/2005			47.34					203.07
	6/6/2006			46.96					203.45
GWB-4/MW-4	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
	12/5/2005			39.70					202.70
	6/6/2006			39.46					202.94
GWC-11/MW-11	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
	6/6/2006			68.10					159.43

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	
	6/6/2006	6.58	18	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	
	6/6/2006	5.28	38	1.23	1.00	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	
	6/6/2006	4.55	48.00	2.22	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	
	6/6/2006	6.58	48.0	10.0	4.0	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:	
(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 #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
June 2006

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	0.032
Zinc	NA	0.122	0.077	0.128	0.034
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 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
Metals ¹					
Barium	2.00	0.021	BQL	0.042	0.034
Zinc	NA	BQL	BQL	0.029	0.025
Organics ²					
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
Metals ¹					
Barium	2.00	BQL	BQL	BQL	0.022
Zinc	NA	BQL	BQL	BQL	BQL
Organics ²					
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
Metals ¹					
Barium	2.00	BQL	NS	BQL	BQL
Zinc	NA	BQL	NS	BQL	0.029
Organics ²					
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-Dicholorbenzene	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
Metals¹					
Barium	2	BQL	NS	0.021	0.025
Zinc	NA	BQL	NS	BQL	BQL
Organics²					
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
Metals ¹					
Barium	2	BQL	BQL	0.021	0.020
Zinc	NA	BQL	BQL	BQL	BQL
Organics ²					
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
Metals ¹					
Barium	2	0.027	BQL	0.021	0.085
Zinc	NA	BQL	BQL	BQL	0.034
Organics ²					
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

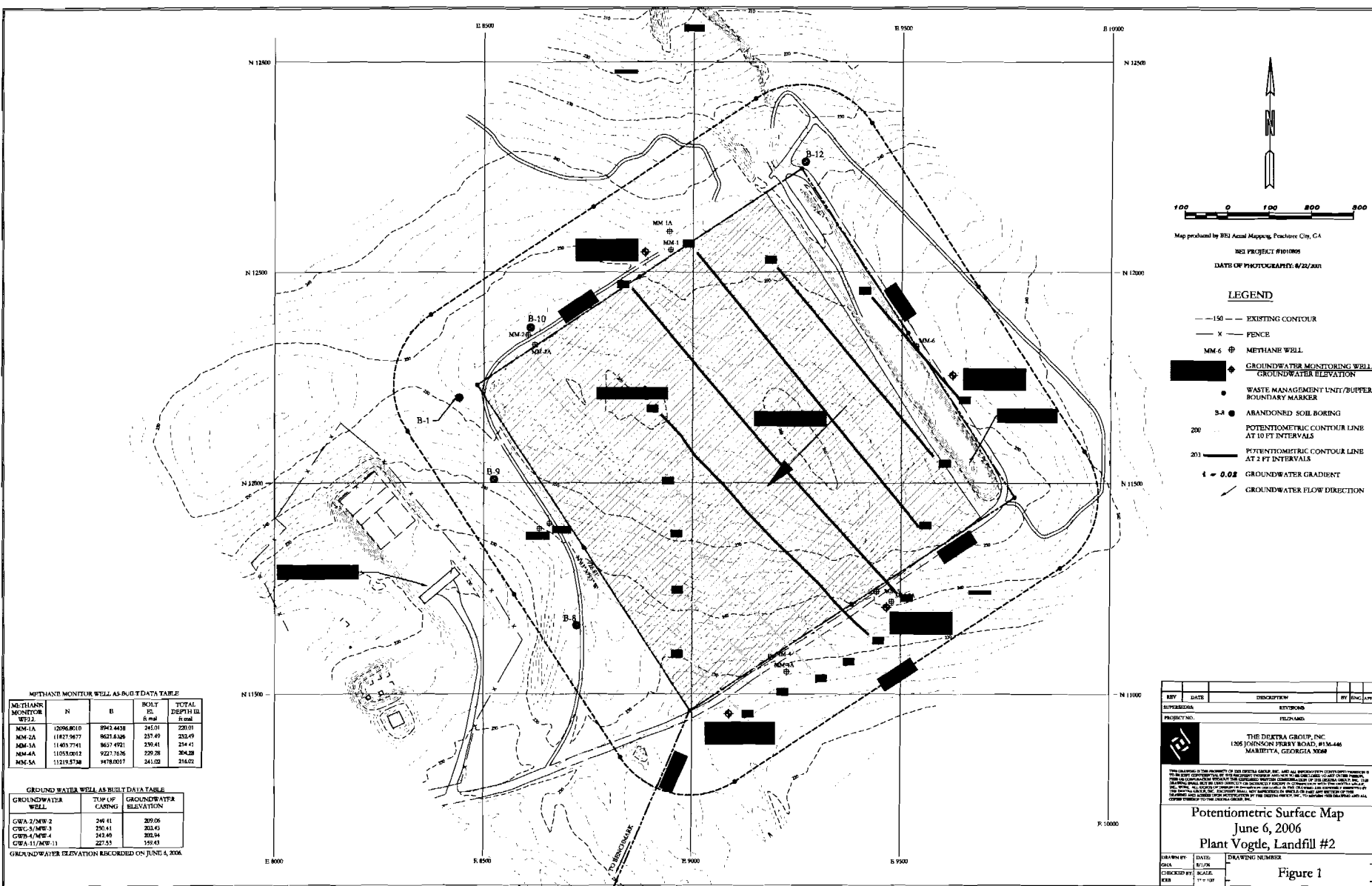
MCL - Maximum Contaminant Level per EPD Rule Chapter 391-3-5; NA - None available

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)
June 2006 Monitoring Event

<u>Well Designation</u>	<u>Water Table</u>		
	<u>Elevation</u>	<u>Northing</u>	<u>Easting</u>
GWA-2/MW-2	209.06	11755.95	9622.59
GWC-3/MW-3	203.45	12048.48	8881.72
GWB-4/MW-4	202.94	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	209.06
GWC-3/MW-3	12048.48	8881.72	203.45
GWB-4/MW-4	11205.40	9466.20	202.94

$$a = \begin{vmatrix} 9622.59 & 209.06 & 1 \\ 8881.72 & 203.45 & 1 \\ 9466.20 & 202.94 & 1 \end{vmatrix} = 3656.7765$$

$$b = \begin{vmatrix} 11755.95 & 209.06 & 1 \\ 12048.48 & 203.45 & 1 \\ 11205.40 & 202.94 & 1 \end{vmatrix} = -4878.869$$

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

$$d = \begin{vmatrix} 11755.95 & 9622.59 & 209.06 \\ 12048.48 & 8881.72 & 203.45 \\ 11205.40 & 9466.20 & 202.94 \end{vmatrix} = -4900641$$

$$z_0 = -10.80305505$$

$$m_x = 0.008061059$$

$$m_y = -0.01075506$$

Southwest Gradient =	0.013
----------------------	-------

APPENDIX B – LABORATORY ANALYTICAL REPORT
JUNE 2006

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Laboratory Report

ACL Project #: 50725

Client Proj #: Vogtle LF #2

Prepared For:

The Dextra Group
1205 Johnson Ferry Rd.
Suite 136-446
Marietta, GA 30068-0000

Attention: Mr. Kurt Batsel

Report Date: 07/05/2006

This report contains 27 pages.
(including this cover page and chain of custody)



John Andros
Technical Director

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ACL maintains the following certifications: NELAC (E87212), South Carolina (98009001), North Carolina (362), Florida (E87212), USDA Soil Import License (S-36503).

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: The Dextra Group
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Marietta, GA 30068-0000

Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

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

Sample ID: GWA-2/MW-2

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted:
Date Analyzed: 06/11/2006
Analyst: JA

ACL Sample #: 244046 **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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Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWA-2/MW-2

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted: 06/12/2006
Date Analyzed: 06/14/2006
Analyst: AM

ACL Sample #: 244046 **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 #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWA-2/MW-2

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted:
Date Analyzed: 06/12/2006
Analyst: AD

ACL Sample #: 244046 **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	0.122	0.020

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Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

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

Sample ID: GWC-3/MW-3

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted:
Date Analyzed: 06/11/2006
Analyst: JA

ACL Sample #: 244047 **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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Client: The Dextra Group
1205 Johnson Ferry Rd.
Suite 136-446
Marietta, GA 30068-0000

Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWC-3/MW-3

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted: 06/12/2006
Date Analyzed: 06/14/2006
Analyst: AM

ACL Sample #: 244047 **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 #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWC-3/MW-3

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted:
Date Analyzed: 06/12/2006
Analyst: AD

ACL Sample #: 244047 **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	0.077	0.020

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Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

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

Sample ID: GWB-4/MW-4

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted:
Date Analyzed: 06/11/2006
Analyst: JA

ACL Sample #: 244048 **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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Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWB-4/MW-4

Matrix: Water

Date Sampled: 06/06/2006

Date Extracted: 06/12/2006

Date Analyzed: 06/14/2006

ACL Sample #: 244048 **Units:** µg/L

Analyst: AM

<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 #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWB-4/MW-4

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted:
Date Analyzed: 06/12/2006
Analyst: AD

ACL Sample #: 244048 **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	0.128	0.020

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Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

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

Sample ID: GWC-11/MW-11

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted:
Date Analyzed: 06/12/2006
Analyst: JA

ACL Sample #: 244049 **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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Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: GWC-11/MW-11

Matrix: Water

Date Sampled: 06/06/2006

Date Extracted: 06/12/2006

Date Analyzed: 06/14/2006

ACL Sample #: 244049 **Units:** µg/L

Analyst: AM

<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 #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: GWC-11/MW-11

Matrix: Water
Date Sampled: 06/06/2006
Date Extracted:
Date Analyzed: 06/12/2006
Analyst: AD

ACL Sample #: 244049 **Units:** mg/L

<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	0.032	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	0.034	0.020

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Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

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

Sample ID: Trip Blank

Matrix: Water

Date Sampled: 06/06/2006

Date Extracted:

Date Analyzed: 06/12/2006

ACL Sample #: 244050 **Units:** µg/L

Analyst: JA

<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			

ACL

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QUALITY CONTROL SECTION

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Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

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)
244046	113	107	101	98
244047	109	108	103	102
244048	113	106	103	100
244049	107	108	105	97
244050	110	106	102	99

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ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

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

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted:

Date Analyzed: 06/11/2006

ACL Sample #: Blank **Units:** µg/L

Analyst: JA

<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			

ADVANCED CHEMISTRY LABS, INC.

GC/MS UNIT # 3

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Sequence Date : 06-11-06

244037-1

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	21.7	108	(54-144)
benzene	20.0	0.0	21.9	109	(82-132)
trichloroethene	20.0	0.0	20.7	103	(73-128)
toluene	20.0	0.0	20.4	102	(83-130)
chlorobenzene	20.0	0.0	21.9	110	(82-123)

COMPOUND	SPIKE ADDED (µg/L)	MSD CONCENTRATION (µg/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
1,1-dichloroethene	20.0	22.9	115	6	14	(54-144)
benzene	20.0	22.0	110	1	14	(82-132)
trichloroethene	20.0	20.5	103	1	14	(73-128)
toluene	20.0	20.4	102	0	13	(83-130)
chlorobenzene	20.0	21.4	107	3	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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Client: The Dextra Group
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Marietta, GA 30068-0000

Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

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

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted:

Date Analyzed: 06/12/2006

ACL Sample #: Blank **Units:** µg/L

Analyst: JA

<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			

ADVANCED CHEMISTRY LABS, INC.

GC/MS UNIT # 3

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Sequence Date : 06-12-06

244058-1

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	22.5	112	(54-144)
benzene	20.0	0.0	22.4	112	(82-132)
trichloroethene	20.0	0.0	20.5	103	(73-128)
toluene	20.0	0.0	20.9	105	(83-130)
chlorobenzene	20.0	0.0	21.5	107	(82-123)

COMPOUND	SPIKE ADDED (µg/L)	MSD CONCENTRATION (µg/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
1,1-dichloroethene	20.0	23.1	115	3	14	(54-144)
benzene	20.0	21.6	108	3	14	(82-132)
trichloroethene	20.0	21.0	105	2	14	(73-128)
toluene	20.0	20.4	102	3	13	(83-130)
chlorobenzene	20.0	21.3	106	1	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: _____

244046	108
244047	127
244048	114
244049	114

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Client: The Dextra Group
1205 Johnson Ferry Rd.
Suite 136-446
Marietta, GA 30068-0000

Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Miscellaneous Organics (8011) - Appendix II

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted: 06/12/2006

Date Analyzed: 06/14/2006

ACL Sample #: Blank **Units:** µg/L

Analyst: AM

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

ANALYTE	SPIKE Added (ug/L)	SAMPLE Result (ug/L)	MS Conc. (ug/L)	MS Rec. (%)	MSD Conc. (ug/L)	MSD Rec. (%)	RPD	QC Limits		
								RPD	% Recovery	
EDB	0.500	0.000	0.382	76	0.432	86	12	25	60	140
DBCP	0.500	0.000	0.435	87	0.429	86	1	25	60	140

* Outside QC Limits

Comment :

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Client Proj #: Vogtle LF #2
ACL Project #: 50725
Date Received: 06/08/2006
Date Reported: 07/05/2006

Contact: Mr. Kurt Batsel

Appendix I Metals (6010B/7841/7041)

Sample ID: -----

Matrix: Water

Date Sampled: -----

Date Extracted:

Date Analyzed: 06/12/2006

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

Analyst: AD

<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.

Appendix I Metals (6010B/7841/7041) Water Matrix Spike/Spike Duplicate Recoveries

Instrument : TJA 61E Trace ICAP
Date Digested : 06-09-06
Date Analyzed : 06-12-06
ACL Sample No.: LCS/LCSD060906

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)	0.200	0.000	0.186	93	0.185	93	0	20	70	130
Arsenic	0.200	0.000	0.195	97	0.195	98	0	20	75	125
Barium	1.000	0.000	0.967	97	0.975	97	1	20	75	125
Beryllium	0.200	0.000	0.199	99	0.200	100	1	20	75	125
Cadmium	0.050	0.000	0.050	100	0.049	99	1	20	75	125
Chromium	0.200	0.000	0.201	100	0.202	101	1	20	75	125
Cobalt	0.200	0.000	0.200	100	0.201	100	0	20	75	125
Copper	0.200	0.000	0.199	99	0.202	101	1	20	75	125
Lead	0.200	0.000	0.203	101	0.201	101	1	20	75	125
Nickel	0.200	0.000	0.202	101	0.202	101	0	20	75	125
Selenium	0.050	0.000	0.048	96	0.047	94	2	20	75	125
Silver	0.020	0.000	0.020	98	0.020	99	2	20	75	125
Thallium (7841)	0.200	0.000	0.191	96	0.193	96	1	20	70	130
Vanadium	0.500	0.000	0.494	99	0.497	99	1	20	75	125
Zinc	0.200	0.000	0.203	101	0.203	102	0	20	75	125

* Outside QC Limits

Comment :

ACL

ADVANCED CHEMISTRY LABS, INC.

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Company Name: THE DEXTRA GROUP		Phone #: (770) 578-9696		CHAIN-OF CUSTODY RECORD AND ANALYSIS REQUEST														
Company Address: 1205 Johnson Ferry Rd. Ste. 136-446 Marietta, GA 30068		Site Location: Waynesboro, GA		ANALYSIS REQUEST														
Project Manager: MR. Kurt Batzel		Client Project: (#) (Name) Vogtle LF#2																
I attest that the proper field sampling procedures were used during the collection of these samples.		Sampler Name (Print): Tiffany Messier / Josh Threngill																
Field Sample ID	# Container	Matrix						Method Preserved					Sampling		Date	Time	APPROVALS APP: METALS EDB/DBCP	Remarks
		Water	Soil	Air	Sludge	Product	Other	HCl	HNO ₃	H ₂ SO ₄	Ice	None	Other					
GWA-2/MW-2	5	X						2	1		X	2	6/6/06	10:30	X	X	X	
GWC-3/MW-3	5	X						2	1		X	2	6/6/06	10:50	X	X	X	
GNB-4/MW-4	5	X						2	1		X	2	6/6/06	08:40	X	X	X	
GWC-11/MW-11	5	X						2	1		X	2	6/6/06	09:50	X	X	X	
Special Detection Limits		Remarks:										TAT		Special Handling				
Special Reporting Requirements		Lab Use Only:										Cooler Temp.		Priority (24 hr) <input type="checkbox"/> Rush (48 hr) <input type="checkbox"/> Rush (72 hr) <input type="checkbox"/> Normal <input checked="" type="checkbox"/>		ACL Contact _____ Quote # _____ P. O. _____		
Fax <input type="checkbox"/>		ACL Project #: 50725										2.8 °C		QA/QC Level Level 1 <input type="checkbox"/> Level 2 <input checked="" type="checkbox"/> Other <input type="checkbox"/>				
CUSTODY RECORD	Relinquished by Sample:										Date		Time		Received by:			
	Relinquished by: T. Messier										6/8/06		09:50		Received by: _____			
	Relinquished by: _____										6/8/06		9:50		Received by Laboratory Waybill # 6 Bartholomew			

APPENDIX C – STATISTICAL ANALYSES

Concentrations (mg/L)

Parameter: Barium

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 41

Total Non-Detect: 21

Percent Non-Detects: 51.2195%

Total Background Samples: 11

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-2/MW-2	11	8 (72.7273%)	7/30/2002	0.027	0.027
			9/24/2002	ND<0.01	ND<0.02
			10/21/2002	ND<0.01	ND<0.02
			12/4/2002	0.015	0.015
			6/25/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/16/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02
			6/14/2005	0.021	0.021
			12/6/2005	ND<0.01	ND<0.02
			6/6/2006	ND<0.01	ND<0.02

There are 3 compliance wells

Well	Samples	ND	Date	Result	Original
GWB-4/MW-4	11	4 (36.3636%)	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<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/16/2004	ND<0.01	ND<0.02
			12/28/2004	0.021	0.021
			6/14/2005	0.042	0.042
			12/6/2005	0.021	0.021
			6/6/2006	ND<0.01	ND<0.02
GWC-11/MW-1111		4 (36.3636%)	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<0.01	ND<0.02
			12/17/2003	0.022	0.022
			6/16/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02
			6/14/2005	0.034	0.034
			12/6/2005	ND<0.01	ND<0.02
			6/6/2006	0.032	0.032
GWC-3/MW-3	8	5 (62.5%)	7/30/2002	ND<0.01	ND<0.02
			9/24/2002	ND<0.01	ND<0.02
			12/4/2002	0.02	0.02
			12/17/2003	ND<0.01	ND<0.02

6/16/2004	0.02	0.02
6/14/2005	ND<0.01	ND<0.02
12/6/2005	0.025	0.025
6/6/2006	ND<0.01	ND<0.02

There is 1 unused well

Well	Samples	ND	Date	Result	Original
EQ-Blank	4	4 (100%)	6/25/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/16/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02

Shapiro-Wilks Test of Normality

Parameter: Barium

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

K = 20; Samples = 41

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	0.01	0.085	0.075	0.394
2	0.01	0.042	0.032	0.2719
3	0.01	0.034	0.024	0.2357
4	0.01	0.032	0.022	0.2091
5	0.01	0.027	0.017	0.1876
6	0.01	0.025	0.015	0.1693
7	0.01	0.025	0.015	0.1531
8	0.01	0.022	0.012	0.1384
9	0.01	0.021	0.011	0.1249
10	0.01	0.021	0.011	0.1123
11	0.01	0.021	0.011	0.1004
12	0.01	0.021	0.011	0.0891
13	0.01	0.021	0.011	0.0782
14	0.01	0.021	0.011	0.0677
15	0.01	0.0205	0.0105	0.0575
16	0.01	0.02	0.01	0.0476
17	0.01	0.02	0.01	0.0379
18	0.01	0.02	0.01	0.0283
19	0.01	0.018	0.008	0.0188
20	0.01	0.015	0.005	0.0094
21	0.01	0.01	0	
22	0.015	0.01	-0.005	
23	0.018	0.01	-0.008	
24	0.02	0.01	-0.01	
25	0.02	0.01	-0.01	
26	0.02	0.01	-0.01	
27	0.0205	0.01	-0.0105	
28	0.021	0.01	-0.011	
29	0.021	0.01	-0.011	
30	0.021	0.01	-0.011	
31	0.021	0.01	-0.011	
32	0.021	0.01	-0.011	
33	0.021	0.01	-0.011	
34	0.022	0.01	-0.012	
35	0.025	0.01	-0.015	
36	0.025	0.01	-0.015	
37	0.027	0.01	-0.017	
38	0.032	0.01	-0.022	
39	0.034	0.01	-0.024	
40	0.042	0.01	-0.032	
41	0.085	0.01	-0.075	

Sum of b values = 0.0664316

Sample Standard Deviation = 0.0133575

W Statistic = 0.618352

5% Critical value of 0.941 exceeds 0.618352

Evidence of non-normality at 95% level of significance
1% Critical value of 0.92 exceeds 0.618352
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-2/MW-2	7/30/2002	0.027	37
	9/24/2002	ND<0.01	11
	10/21/2002	ND<0.01	11
	12/4/2002	0.015	22
	6/25/2003	ND<0.01	11
	12/17/2003	ND<0.01	11
	6/16/2004	ND<0.01	11
	12/28/2004	ND<0.01	11
	6/14/2005	0.021	28
	12/6/2005	ND<0.01	11
	6/6/2006	ND<0.01	11

Rank Sum = 175

Rank Mean = 15.9091

Background Rank Sum = 175

Background Rank Mean = 15.9091

Compliance Wells

Well ID	Date	Result	Rank
GWB-4/MW-4	7/30/2002	0.021	29
	9/24/2002	0.021	30
	10/21/2002	0.021	31
	12/4/2002 ~	0.0205	27
	6/25/2003	ND<0.01	11
	12/17/2003	ND<0.01	11
	6/16/2004	ND<0.01	11
	12/28/2004	0.021	32
	6/14/2005	0.042	40
	12/6/2005	0.021	33
	6/6/2006	ND<0.01	11

Rank Sum = 266

Rank Mean = 24.1818

GWC-11/MW-11	7/30/2002	0.085	41
	9/24/2002	0.02	24
	10/21/2002	0.025	35
	12/4/2002	0.018	23
	6/25/2003	ND<0.01	11
	12/17/2003	0.022	34
	6/16/2004	ND<0.01	11
	12/28/2004	ND<0.01	11
	6/14/2005	0.034	39
	12/6/2005	ND<0.01	11
	6/6/2006	0.032	38

Rank Sum = 278
Rank Mean = 25.2727

GWC-3/MW-3	7/30/2002	ND<0.01	11
	9/24/2002	ND<0.01	11
	12/4/2002	0.02	25
	12/17/2003	ND<0.01	11
	6/16/2004	0.02	26
	6/14/2005	ND<0.01	11
	12/6/2005	0.025	36
	6/6/2006	ND<0.01	11

Rank Sum = 142
Rank Mean = 17.75

Calculation Results:

Kruskal-Wallis H Statistic = 4.75103

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 5.4871

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

4.75103 < 7.81472 indicating no significant group difference at 5% significance level

5.4871 < 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 1/2 DL

Total Samples: 41

Total Non-Detect: 28

Percent Non-Detects: 68.2927%

Total Background Samples: 11

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-2/MW-2	11	9 (81.8182%)	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
			12/4/2002	ND<0.01	ND<0.02
			6/25/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/16/2004	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	0.08	0.08
			6/6/2006	0.122	0.122

There are 3 compliance wells

Well	Samples	ND	Date	Result	Original
GWB-4/MW-4	11	8 (72.7273%)	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
			12/4/2002 ~	ND<0.01	ND<0.02
			6/25/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/16/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02
			6/14/2005	0.029	0.029
			12/6/2005	0.082	0.082
			6/6/2006	0.128	0.128
GWC-11/MW-1111		6 (54.5455%)	7/30/2002	0.034	0.034
			9/24/2002	ND<0.01	ND<0.02
			10/21/2002	ND<0.01	ND<0.02
			12/4/2002	ND<0.01	ND<0.02
			6/25/2003	0.029	0.029
			12/17/2003	ND<0.01	ND<0.02
			6/16/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02
			6/14/2005	0.025	0.025
			12/6/2005	0.181	0.181
			6/6/2006	0.034	0.034
GWC-3/MW-3	8	5 (62.5%)	7/30/2002	ND<0.01	ND<0.02
			9/24/2002	ND<0.01	ND<0.02
			12/4/2002	0.047	0.047
			12/17/2003	ND<0.01	ND<0.02

6/16/2004	ND<0.01	ND<0.02
6/14/2005	ND<0.01	ND<0.02
12/6/2005	0.137	0.137
6/6/2006	0.077	0.077

There is 1 unused well

Well	Samples	ND	Date	Result	Original
EQ-Blank	4	4 (100%)	6/25/2003	ND<0.01	ND<0.02
			12/17/2003	ND<0.01	ND<0.02
			6/16/2004	ND<0.01	ND<0.02
			12/28/2004	ND<0.01	ND<0.02

Shapiro-Wilks Test of Normality

Parameter: Zinc

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

K = 20; Samples = 41

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)		b(i)
1	0.01	0.181	0.171	0.394	0.067374
2	0.01	0.137	0.127	0.2719	0.0345313
3	0.01	0.128	0.118	0.2357	0.0278126
4	0.01	0.122	0.112	0.2091	0.0234192
5	0.01	0.082	0.072	0.1876	0.0135072
6	0.01	0.08	0.07	0.1693	0.011851
7	0.01	0.077	0.067	0.1531	0.0102577
8	0.01	0.047	0.037	0.1384	0.0051208
9	0.01	0.034	0.024	0.1249	0.0029976
10	0.01	0.034	0.024	0.1123	0.0026952
11	0.01	0.029	0.019	0.1004	0.0019076
12	0.01	0.029	0.019	0.0891	0.0016929
13	0.01	0.025	0.015	0.0782	0.001173
14	0.01	0.01	0	0.0677	0
15	0.01	0.01	0	0.0575	0
16	0.01	0.01	0	0.0476	0
17	0.01	0.01	0	0.0379	0
18	0.01	0.01	0	0.0283	0
19	0.01	0.01	0	0.0188	0
20	0.01	0.01	0	0.0094	0
21	0.01	0.01	0		
22	0.01	0.01	0		
23	0.01	0.01	0		
24	0.01	0.01	0		
25	0.01	0.01	0		
26	0.01	0.01	0		
27	0.01	0.01	0		
28	0.01	0.01	0		
29	0.025	0.01	-0.015		
30	0.029	0.01	-0.019		
31	0.029	0.01	-0.019		
32	0.034	0.01	-0.024		
33	0.034	0.01	-0.024		
34	0.047	0.01	-0.037		
35	0.077	0.01	-0.067		
36	0.08	0.01	-0.07		
37	0.082	0.01	-0.072		
38	0.122	0.01	-0.112		
39	0.128	0.01	-0.118		
40	0.137	0.01	-0.127		
41	0.181	0.01	-0.171		

Sum of b values = 0.20434

Sample Standard Deviation = 0.0421916

W Statistic = 0.586402

5% Critical value of 0.941 exceeds 0.586402

Evidence of non-normality at 95% level of significance
1% Critical value of 0.92 exceeds 0.586402
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-2/MW-2	7/30/2002	ND<0.01	14.5
	9/24/2002	ND<0.01	14.5
	10/21/2002	ND<0.01	14.5
	12/4/2002	ND<0.01	14.5
	6/25/2003	ND<0.01	14.5
	12/17/2003	ND<0.01	14.5
	6/16/2004	ND<0.01	14.5
	12/28/2004	ND<0.01	14.5
	6/14/2005	ND<0.01	14.5
	12/6/2005	0.08	36
	6/6/2006	0.122	38

Rank Sum = 204.5

Rank Mean = 18.5909

Background Rank Sum = 204.5

Background Rank Mean = 18.5909

Compliance Wells

Well ID	Date	Result	Rank
GWB-4/MW-4	7/30/2002	ND<0.01	14.5
	9/24/2002	ND<0.01	14.5
	10/21/2002	ND<0.01	14.5
	12/4/2002 ~	ND<0.01	14.5
	6/25/2003	ND<0.01	14.5
	12/17/2003	ND<0.01	14.5
	6/16/2004	ND<0.01	14.5
	12/28/2004	ND<0.01	14.5
	6/14/2005	0.029	30
	12/6/2005	0.082	37
	6/6/2006	0.128	39

Rank Sum = 222

Rank Mean = 20.1818

GWC-11/MW-11	7/30/2002	0.034	32
	9/24/2002	ND<0.01	14.5
	10/21/2002	ND<0.01	14.5
	12/4/2002	ND<0.01	14.5
	6/25/2003	0.029	31
	12/17/2003	ND<0.01	14.5
	6/16/2004	ND<0.01	14.5
	12/28/2004	ND<0.01	14.5
	6/14/2005	0.025	29
	12/6/2005	0.181	41
	6/6/2006	0.034	33

Rank Sum = 253

Rank Mean = 23

GWC-3/MW-3	7/30/2002	ND<0.01	14.5
	9/24/2002	ND<0.01	14.5
	12/4/2002	0.047	34
	12/17/2003	ND<0.01	14.5
	6/16/2004	ND<0.01	14.5
	6/14/2005	ND<0.01	14.5
	12/6/2005	0.137	40
	6/6/2006	0.077	35

Rank Sum = 181.5

Rank Mean = 22.6875

Calculation Results:

Kruskal-Wallis H Statistic = 0.961573

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 1.41054

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

0.961573 < 7.81472 indicating no significant group difference at 5% significance level

1.41054 < 7.81472 indicating no significant group difference at 5% significance level when adjusted for ties