

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



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September 28, 2006

**FEDERAL EXPRESS**

Vogtle Electric Generating Plant Landfill #3  
Solid Waste Permit No. 017-007D(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 #3 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. Statistically significant increases over background were indicated for several analyzed parameters in GWA-7, GWC-13 and GWC-14 at Landfill #3. In accordance with Rule 391-3-4, Southern Nuclear will place a notice in the landfill operating record within 14 days of submittal of this report. The notice will indicate which constituents have shown statistically higher concentrations compared to the background wells.

Based on previous detections of mercury in several wells during Appendix II sampling, Southern Nuclear will continue to perform analysis for mercury in all Landfill #3 wells during the routine groundwater sampling events.

EV-06-2237

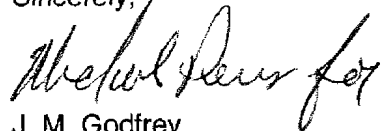
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Georgia Environmental Protection Division

Mr. Jeff Cown

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 cursive script, appearing to read "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 #3  
SOLID WASTE PERMIT No. 017-007D(L)(I)  
BURKE COUNTY, GEORGIA  
SEPTEMBER 2006**

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***PREPARED FOR:***

Southern Nuclear Operating Company, Inc.  
40 Inverness Center Parkway  
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***PREPARED BY:***



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- A – Hydraulic Gradient Calculation Sheets
- B – Laboratory Analytical Reports
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## 1 – Introduction

This report presents the results of groundwater sampling conducted in June 2006 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 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 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 June 2006 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  $5.634 \times 10^{-4}$  cm/sec in GWA-6 to  $3.064 \times 10^{-2}$  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 June 5, 2006.

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 June 2006 event, the southwest gradient was 0.010, 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*. Please note that the well GWC-6 on the chain-of-custody should be labeled GWB-6.

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 June 2006 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 GWC-5 (0.031 mg/l), and in well GWC-13 (0.051 mg/l). Zinc was detected in well GWC-5 at 0.100 mg/l, in well GWB-6 at 0.083 mg/l, in well GWA-7 at 0.484 mg/l, in the replicate sample well GWA-7 at 0.266 mg/l, in well GWC-13 at 0.213 mg/l, in well GWA-15 at 0.063 mg/l and in well GWC-17 at 0.077 mg/l; there is no MCL for zinc. In the compliance well GWA-7 the VOC trichlorofluoromethane was detected at 66 ug/l, and at 94 ug/l in the replicate sample well GWA-7; there is no MCL for trichlorofluoromethane. In the compliance well GWC-13, 1,1-dichloroethane, cis-1,2-dichloroethene, and trichlorofluoromethane were detected at low levels. All VOC concentrations in GWC-13 were below applicable MCLs. 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 five detected parameters barium, zinc, 1,1-dichloroethane, cis-1,2-dichloroethene, and trichlorofluoromethane. Compared to background well GWA-15/MW-15, the analyses indicate statistically significant higher concentrations of the following parameters:

- Barium, 1,1-dichloroethane, cis-1,2-dichloroethene and trichlorofluoromethane in the GWC-13 well sample
- Barium, 1,1-dichloroethane, and cis-1,2-dichloroethene in the GWC-14 well sample
- Trichlorofluoromethane in the GWA-7/MW-7 well sample

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, 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 GWC-13, GWC-14, and GWA-7 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. 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

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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
	6/5/2006			47.85					204.11
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
	6/5/2006			47.38					231.49
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
	6/5/2006			31.74					229.59

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
	6/5/2006			39.97					233.11
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
	6/5/2006			53.03					209.85
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
	6/5/2006			44.32					223.83

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
	6/5/2006			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
	6/5/2006			72.61					150.03
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
	6/5/2006			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 <sup>1</sup>	Turbidity <sup>2</sup>	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	--	--	--	--	--	--	Split with GAEPD
	12/3/2002	5.94	117	7.8	2.0	none	none	
	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	
	6/5/2006	6.38	550	2.23	1.5	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	
	6/5/2006	7.20	120	2.41	1.00	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	Turbidity >100 ntu for 2 hours Turbidity 85-100 ntu for 1 hour
	12/3/2002	6.51	188	7.3	2.5	none	none	
	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	
	6/5/2006	5.12	151	20	5.0	none	none	

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

Well ID	Date	pH	Conductivity <sup>1</sup>	Turbidity <sup>2</sup>	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	
	6/5/2006	7.17	250	1.11	1.00	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
	6/6/2006	--	--	--	--	--	--	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	
	6/5/2006	7.15	55.0	1.6	2.00	none	none	

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

Well ID	Date	pH	Conductivity <sup>/1</sup>	Turbidity <sup>/2</sup>	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
	6/5/2006	--	--	--	--	--	--	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	
	6/5/2006	6.56	80	10	1.5	none	none	
GWB-18/MW-18	6/15/2005	6.67	85.6	8.2	4.2	none	none	
	12/6/2005	--	--	--	--	--	--	Well Dry
	6/5/2006	--	--	--	--	--	--	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
<b>Inorganic Constituents:</b>	
(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
<b>Organic Constituents:</b>	
(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**  
**June 2006**

CONSTITUENT	MCL	WELL SAMPLES								
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWA-7/MW-7 <sup>3</sup>	GWC-13/MW-13	GWC-14/MW-14	GWA-15/MW-15	GWC-17/MW-17	GWC-18/MW-18
Metals <sup>1</sup>										
Barium	2.00	0.031	BQL	BQL	BQL	0.051	NS	BQL	BQL	NS
Zinc	NA	0.100	0.083	0.484	0.266	0.213	NS	0.063	0.077	NS
Organics <sup>2</sup>										
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL	15	NS	BQL	BQL	NS
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	NS
cis-1,2-Dichloroethene	70	BQL	BQL	BQL	BQL	8	NS	BQL	BQL	NS
Trichlorofluoromethane	NA	BQL	BQL	66	94	92	NS	BQL	BQL	NS
Vinyl chloride	2	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	NS
Napthalene <sup>4</sup>	NA	NA	NA	5	BQL	NA	NS	NA	NA	NA
Benzene	5	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	NS
Trichloroethene	5	BQL	BQL	BQL	BQL	BQL	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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Replicate sample of well GWC-7/MW-7 sample

<sup>4</sup>Appendix 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**  
**December 2005**

CONSTITUENT	MCL	WELL SAMPLES								
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWA-7/MW-7 <sup>3</sup>	GWC-13/MW-13	GWC-14/MW-14	GWA-15/MW-15	GWC-17/MW-17	GWC-18/MW-18
Metals <sup>1</sup>										
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
Organics <sup>2</sup>										
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 <sup>4</sup>	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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Replicate sample of well GWC-7/MW-7 sample

<sup>4</sup>Appendix 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 <sup>5</sup>	GWC-14/MW-14	GWA-15/MW-15	GWC-17/MW-17	GWC-18/MW-18
Metals <sup>1</sup>										
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 <sup>6</sup>	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Mercury <sup>4</sup>	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 <sup>6</sup>	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Vanadium	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL	BQL	BQL
Organics <sup>2</sup>										
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 <sup>3</sup>	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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Applies only to Community Water Systems serving 10,000

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

<sup>5</sup>Replicate sample of well GWC-13/MW-13 sample

<sup>6</sup>Action 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 <sup>5</sup>	GWC-13/MW-13	GWC-14/MW-14	GWA-15/MW-15
<b>Metals<sup>1</sup></b>								
Barium	2.00	BQL	BQL	BQL	BQL	0.043	NS	BQL
Zinc	NA	BQL	BQL	BQL	BQL	0.044	NS	BQL
Copper	1.3 <sup>6</sup>	BQL	BQL	BQL	BQL	BQL	NS	BQL
Mercury <sup>4</sup>	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 <sup>6</sup>	BQL	BQL	BQL	BQL	BQL	NS	BQL
Vanadium	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL
<b>Organics<sup>2</sup></b>								
1,1-Dichloroethane	NA	BQL	BQL	BQL	BQL	16	NS	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	NS	BQL
1,4-Dicholorbenzene	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 <sup>3</sup>	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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Applies only to Community Water Systems serving 10,000

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

<sup>5</sup>Replicate sample of well GWA-7/MW-7 sample

<sup>6</sup>Action 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 <sup>5</sup>	GWC-14/MW-14	GWA-15/MW-15
Metals <sup>1</sup>								
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 <sup>6</sup>	BQL	BQL	BQL	BQL	BQL	NS	BQL
Mercury <sup>4</sup>	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 <sup>6</sup>	BQL	BQL	BQL	BQL	BQL	NS	BQL
Vanadium	NA	BQL	BQL	BQL	BQL	BQL	NS	BQL
Organics <sup>2</sup>								
1,1-Dichloroethane	NA	BQL	BQL	BQL	17	19	NS	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	NS	BQL
1,4-Dicholorbenzene	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 <sup>3</sup>	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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Applies only to Community Water Systems serving 10,000

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

<sup>5</sup>Replicate sample of well GWC-13/MW-13 sample

<sup>6</sup>Action 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 <sup>5</sup>	GWC-14/MW-14	GWA-15/MW-15
<b>Metals<sup>1</sup></b>								
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 <sup>6</sup>	0.025	BQL	BQL	BQL	BQL	0.026	BQL
Mercury <sup>4</sup>	0.002	BQL	BQL	BQL	BQL	BQL	<b>0.01</b>	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	<b>0.011</b>	BQL
Nickel	NA	BQL	BQL	BQL	BQL	BQL	0.034	BQL
Lead	0.015 <sup>6</sup>	BQL	BQL	BQL	BQL	BQL	0.015	BQL
Vanadium	NA	BQL	BQL	BQL	BQL	BQL	0.060	BQL
<b>Organics<sup>2</sup></b>								
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 <sup>3</sup>	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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Applies only to Community Water Systems serving 10,000

<sup>4</sup>Appendix II parameter

<sup>5</sup>Replicate sample of well GWC-13/MW-13 sample

<sup>6</sup>Action 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 <sup>5</sup>	GWC-14/MW-14	GWA-15/MW-15
<u>Metals<sup>1</sup></u>								
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 <sup>4</sup>	0.002	NS	NS	NS	0.0005	0.0005	<b>0.0072</b>	BQL
<u>Organics<sup>2</sup></u>								
1,1-Dichloroethane	NA	BQL	BQL	BQL	9	9	10	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	BQL	7	BQL
1,4-Dicholorbenzene	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 <sup>3</sup>	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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Applies only to Community Water Systems serving 10,000

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

<sup>5</sup>Replicate 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>Metals<sup>1</sup></u>							
Barium	2.00	0.018	BQL	0.015	0.082	0.106	BQL
Zinc	NA	BQL	BQL	BQL	0.027	BQL	BQL
<u>Organics<sup>2</sup></u>							
1,1-Dichloroethane	NA	BQL	BQL	BQL	7	16	BQL
Chlorobenzene	100	BQL	BQL	BQL	BQL	10	BQL
1,4-Dichlorobenzene	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	<b>11</b>	<b>24</b>	BQL
Xylenes (Total)	10000	BQL	BQL	BQL	BQL	21	BQL
Vinyl chloride	2	BQL	BQL	BQL	BQL	<b>4</b>	BQL
Chloroform <sup>3</sup>	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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Applies 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 <sup>3</sup>
<b>Metals<sup>1</sup></b>								
Barium		BQL	BQL	BQL	0.083	0.064	BQL	BQL
Zinc		BQL	BQL	BQL	0.027	BQL	BQL	BQL
<b>Organics<sup>2</sup></b>								
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	<b>11</b>	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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Replicate 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 <sup>3</sup>	GWA-15/MW-15
Metals <sup>1</sup>								
Barium	2	0.020	BQL	BQL	0.085	0.092	0.095	BQL
Zinc	NA	BQL	BQL	BQL	0.023	BQL	BQL	BQL
Organics <sup>2</sup>								
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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

<sup>3</sup>Replicate 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 <sup>1</sup>						
		GWC-5/MW-5	GWB-6/MW-6	GWA-7/MW-7	GWA-7-2/MW-7-2 <sup>3</sup>	GWC-13/MW-13	GWC-14/MW-14	GWA-15/MW-15
Metals <sup>1</sup>								
Barium	2	BQL	BQL	BQL	BQL	0.077	0.068	BQL
Zinc	NA	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Organics <sup>2</sup>								
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

<sup>1</sup>Metals concentrations in mg/L

<sup>2</sup>Organics concentration units in ug/l or ppb

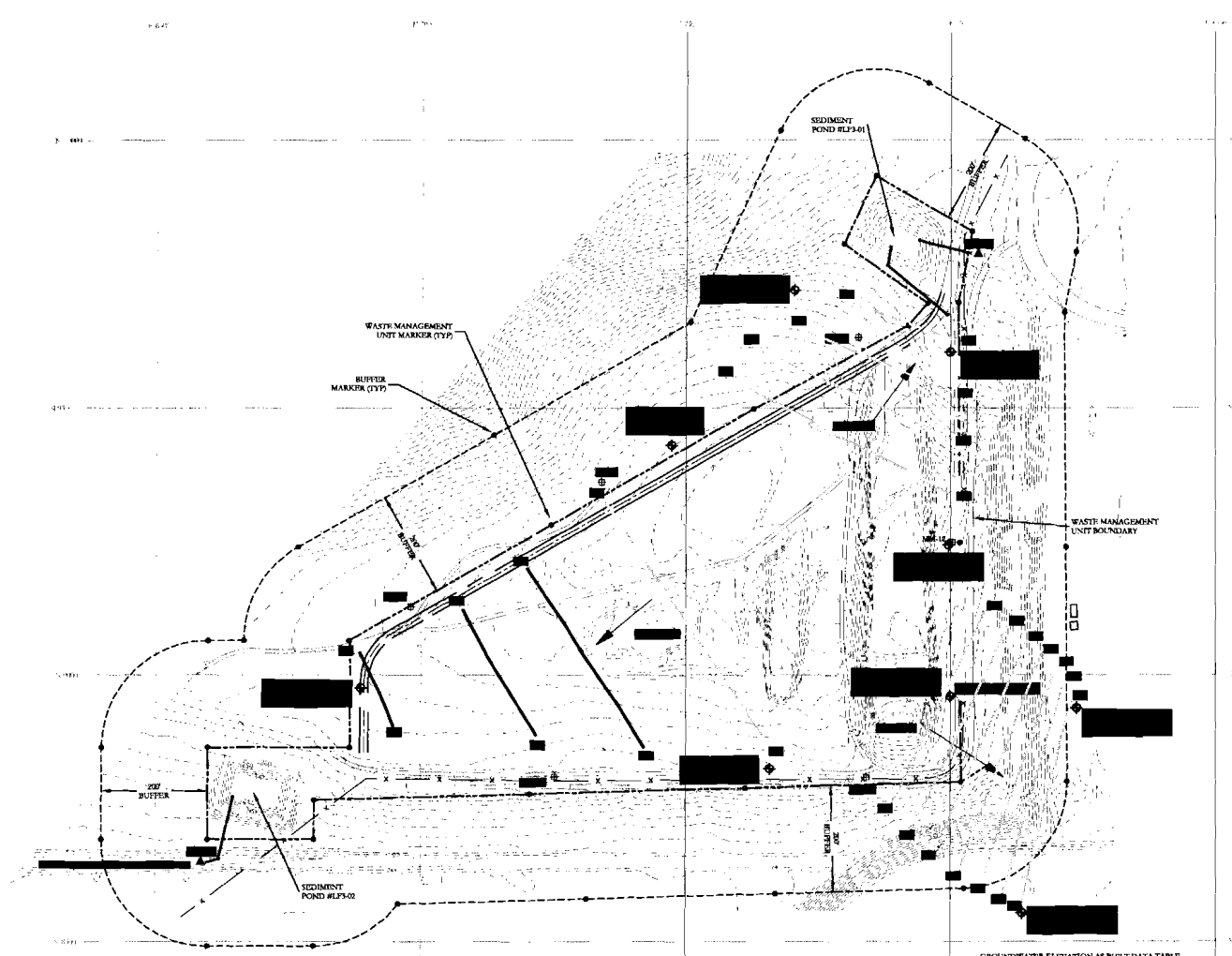
<sup>3</sup>Replicate sample of GWA-7/MW-7 well sample

**Bold** indicates detected concentration is greater than the MCL.



## FIGURE

---



Map produced by REI Aerial Mapping, Peachtree City, GA  
 REI PROJECT #1010665  
 DATE OF PHOTOGRAPHY: 8/31/2001

**LEGEND**

- 150 EXISTING CONTOUR
- PENCE
- MM 6 METHANE WELL
- ◆ GROUNDWATER MONITORING WELL
- ◆ GROUNDWATER ELEVATION
- WASTE MANAGEMENT UNIT/BUFFER BOUNDARY MARKER
- ABANDONED SOIL BORING
- 150 POTENTIOMETRIC CONTOUR LINE AT 10 FT INTERVALS
- 229 POTENTIOMETRIC CONTOUR LINE AT 2 FT INTERVALS
- $i = 0.02$  GROUNDWATER GRADIENT
- GROUNDWATER FLOW DIRECTION

REV	DATE	DESCRIPTION	BY	CHK
SUPERVISOR REVIEWING				
PROJECT NO. PERMITS				
THE DETTLE GROUP, INC. 1205 JOHNSON FERRY ROAD, #136-446 MARITTIMA, GEORGIA 30066				
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<b>Groundwater Contour Elevation Map</b> June 5, 2006 Plant Vogtle Landfill #3				
DRAWN BY	DATE	DRAWING NUMBER		
CHK	8/1/06	17-118		

METHANE MONITOR WELL AS-BUILT DATA TABLE

METHANE MONITOR WELL	N	E	BOLT EL. (ft. MSL)	TOTAL DEPTH EL. (ft. MSL)
MM-7	9631.6175	7826.0659	337.56	232.56
MM-8	9361.2699	7541.2712	272.99	242.99
MM-9	9117.9166	6989.3839	356.32	238.32
MM-10	8906.0679	7293.0077	357.95	227.95
MM-11	8906.1725	7841.8389	229.39	234.39
MM-12	9248.4456	8003.8202	270.86	240.86

GROUNDWATER ELEVATION AS-BUILT DATA TABLE

GROUNDWATER WELL	TOP OF CASING ELEVATION	GROUNDWATER ELEVATION
GWC-5/MW-5	251.96	204.11
GWC-6/MW-6	278.87	231.49
GWC-7/MW-7	261.33	229.59
GWA-15/MW-13	273.08	233.11
GWA-14/MW-14	262.88	209.85
GWA-15/MW-15	268.15	223.81
GWA-16/MW-16	256.95	DRY
GWA-17/MW-17	222.64	150.03
GWC-18/MW-18	227.54	DRY

GROUNDWATER ELEVATION RECORDED ON JUNE 5, 2006.

Figure 1

**APPENDIX A – HYDRAULIC GRADIENT CALCULATION  
SHEETS**

---

Plant Vogtle Landfill #3  
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>
GWC-5/MW-5	204.11	9604.30	7999.33
GWB-6/MW-6	231.49	9432.48	7473.25
GWA-7/MW-7	229.59	8826.22	7657.89
GWC-13/MW-13	233.11	9242.72	7995.86
GWC-14/MW-14	209.85	8960.64	7999.10
GWA-15/MW-15	223.83	8975.71	6886.73
GWC-17/MW-17	150.03	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**

<u>Wells of Interest</u> = (GWB-6, GWA-7 & GWA-15)				(High-Mid-Low)
	x	y	z	
GWB-6/MW-6	9432.48	7473.25	231.49	
GWA-7/MW-7	8826.22	7657.89	229.59	
GWA-15/MW-15	8975.71	6886.73	223.83	

$$a = \begin{vmatrix} 7473.25 & 231.49 & 1 \\ 7657.89 & 229.59 & 1 \\ 6886.73 & 223.83 & 1 \end{vmatrix} = -2528.73$$

$$b = \begin{vmatrix} 9432.48 & 231.49 & 1 \\ 8826.22 & 229.59 & 1 \\ 8975.71 & 223.83 & 1 \end{vmatrix} = 3776.0886$$

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

$$d = \begin{vmatrix} 9432.48 & 7473.25 & 231.49 \\ 8826.22 & 7657.89 & 229.59 \\ 8975.71 & 6886.73 & 223.83 \end{vmatrix} = 49765605$$

$$z_0 = -113.1237963$$

$$m_x = 0.005748138$$

$$m_y = -0.008583548$$

Southwest Gradient =	0.010
----------------------	-------

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

**Northeast Gradient**

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

	x	y	z
GWC-13/MW-13	9242.72	7995.86	233.11
GWC-6/MW-6	9432.48	7473.25	231.49
GWC-5/MW-5	9604.30	7999.33	204.11

$$a = \begin{vmatrix} 7995.86 & 233.11 & 1 \\ 7473.25 & 231.49 & 1 \\ 7999.33 & 204.11 & 1 \end{vmatrix} = 15161.311$$

$$b = \begin{vmatrix} 9242.72 & 233.11 & 1 \\ 9432.48 & 231.49 & 1 \\ 9604.30 & 204.11 & 1 \end{vmatrix} = -4917.28$$

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

$$d = \begin{vmatrix} 9242.72 & 7995.86 & 233.11 \\ 9432.48 & 7473.25 & 231.49 \\ 9604.30 & 7999.33 & 204.11 \end{vmatrix} = 223652844$$

$$z0 = -1179.455608$$

$$mx = -0.07995469$$

$$my = 0.025931769$$

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	233.11
GWA-7/MW-7	8826.22	7657.89	229.59
GWC-14/MW-14	8960.64	7999.10	209.85

$$a = \begin{vmatrix} 7995.86 & 233.11 & 1 \\ 7657.89 & 229.59 & 1 \\ 7999.10 & 209.85 & 1 \end{vmatrix} = 7872.587$$

$$b = \begin{vmatrix} 9242.72 & 233.11 & 1 \\ 8826.22 & 229.59 & 1 \\ 8960.64 & 209.85 & 1 \end{vmatrix} = 8694.8684$$

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

$$d = \begin{vmatrix} 9242.72 & 7995.86 & 233.11 \\ 8826.22 & 7657.89 & 229.59 \\ 8960.64 & 7999.10 & 209.85 \end{vmatrix} = -19296849$$

$$z0 = -199.5867116$$

$$mx = 0.081425923$$

$$my = 0.089930754$$

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

**APPENDIX B – LABORATORY ANALYTICAL REPORT**  
**JUNE 2006**

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## Laboratory Report

**ACL Project #: 50727**

**Client Proj #: Vogtle LF #3**

**Prepared For:**

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

**Attention: Mr. Kurt Batsel**

**Report Date: 07/06/2006**

**This report contains 78 pages.**  
(including this cover page and chain of custody)



John Andros  
Technical Director

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### **Data Qualifier Codes**

<b><u>Code</u></b>	<b><u>Description</u></b>
<b>A</b>	Value reported is the mean of two or more determinations;
<b>B</b>	Indicates the analyte was detected in the sample and method blank;
<b>BQL</b>	Below practical quantitation limit;
<b>DW</b>	Results reported on a dry-weight basis (ex: mg/kg,dw);
<b>E</b>	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;
<b>H</b>	Estimated value; result higher than the highest calibration standard;
<b>J</b>	Reported value is between the method detection limit and the practical quantitation limit;
<b>PQL</b>	Practical quantitation limit;
<b>TIC</b>	Tentatively identified compound;
<b>***</b>	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  
1205 Johnson Ferry Rd.  
Suite 136-446  
Marietta, GA 30068-0000

**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

**Sample ID:** GWC-5/MW-5

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** JA

**ACL Sample #:** 244061 **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 #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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**Miscellaneous Organics (8011) - Appendix II**

---

**Sample ID:** GWC-5/MW-5

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/14/2006

**ACL Sample #:** 244061      **Units:** µg/L

**Analyst:** AD

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<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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Appendix I Metals (6010B/7841/7041)**

---

**Sample ID:** GWC-5/MW-5

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:**

**Date Analyzed:** 06/12/2006

**ACL Sample #:** 244061      **Units:** mg/L

**Analyst:** AD

---

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	0.031	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	0.100	0.020

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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	244061	Mercury (7470A)	Water	BQL	0.0005	mg/L	06/12/2006

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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

**Sample ID:** GWC-6/MW-6

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** JA

**ACL Sample #:** 244062 **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 #:** 50727  
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**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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**Miscellaneous Organics (8011) - Appendix II**

---

**Sample ID:** GWC-6/MW-6

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/14/2006

**ACL Sample #:** 244062      **Units:** µg/L

**Analyst:** AD

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<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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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**Appendix I Metals (6010B/7841/7041)**

---

**Sample ID:** GWC-6/MW-6

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** AD

**ACL Sample #:** 244062      **Units:** mg/L

---

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
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	0.083	0.020

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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<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-6/MW-6	244062	Mercury (7470A)	Water	BQL	0.0005	mg/L	06/12/2006

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

**Sample ID:** GWA-7/MW-7

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** JA

**ACL Sample #:** 244063 **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	66	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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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Acid Extractables (8270C) - Appendix II**

---

**Sample ID:** GWA-7/MW-7

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/13/2006  
**Analyst:** RB

**ACL Sample #:** 244063      **Units:** µg/L

---

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

### Base Neutral Extractables (8270C) - Appendix II

**Sample ID:** GWA-7/MW-7

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/13/2006

**ACL Sample #:** 244063 **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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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Base Neutral Extractables (8270C) - Appendix II**

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**Sample ID:** GWA-7/MW-7

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/13/2006

**ACL Sample #:** 244063      **Units:** µg/L

**Analyst:** RB

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<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
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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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

---

**Sample ID:** GWA-7/MW-7

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/20/2006  
**Analyst:** AM

**ACL Sample #:** 244063      **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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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Chlorinated Herbicides (8151A) - Appendix II**

---

**Sample ID:** GWA-7/MW-7

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/08/2006

**Date Analyzed:** 06/23/2006

**ACL Sample #:** 244063      **Units:** µg/L

**Analyst:** AM

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<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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Miscellaneous Organics (8011) - Appendix II**

---

**Sample ID:** GWA-7/MW-7

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/14/2006

**Analyst:** AD

**ACL Sample #:** 244063      **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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

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

---

**Sample ID:** GWA-7/MW-7

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** AD/JR

**ACL Sample #:** 244063      **Units:** mg/L

---

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
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	0.484	0.020

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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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	244063	Cyanide (9012A)	Water	BQL	0.020	mg/L	06/15/2006
GWA-7/MW-7	244063	Sulfide (9034)	Water	BQL	1.0	mg/L	06/12/2006

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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

**Sample ID:** GWA-7/MW-7 (DUP)

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:**

**Date Analyzed:** 06/12/2006

**ACL Sample #:** 244064 **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	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	94	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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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**Acid Extractables (8270C) - Appendix II**

---

**Sample ID:** GWA-7/MW-7 (DUP)

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/13/2006

**ACL Sample #:** 244064      **Units:** µg/L

**Analyst:** RB

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<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

### Base Neutral Extractables (8270C) - Appendix II

**Sample ID:** GWA-7/MW-7 (DUP)

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/13/2006

**ACL Sample #:** 244064 **Units:** µg/L

**Analyst:** RB

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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Base Neutral Extractables (8270C) - Appendix II**

---

**Sample ID:** GWA-7/MW-7 (DUP)

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/13/2006  
**Analyst:** RB

**ACL Sample #:** 244064      **Units:** µg/L

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<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

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

---

**Sample ID:** GWA-7/MW-7 (DUP)

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/20/2006  
**Analyst:** AM

**ACL Sample #:** 244064      **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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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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**Chlorinated Herbicides (8151A) - Appendix II**

---

**Sample ID:** GWA-7/MW-7 (DUP)

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/08/2006

**Date Analyzed:** 06/23/2006

**ACL Sample #:** 244064      **Units:** µg/L

**Analyst:** AM

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<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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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**Miscellaneous Organics (8011) - Appendix II**

---

**Sample ID:** GWA-7/MW-7 (DUP)

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/15/2006  
**Analyst:** AD

**ACL Sample #:** 244064      **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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

---

**Sample ID:** GWA-7/MW-7 (DUP)

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** AD/JR

**ACL Sample #:** 244064      **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	0.266	0.020

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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)	244064	Cyanide (9012A)	Water	BQL	0.020	mg/L	06/15/2006
GWA-7/MW-7 (DUP)	244064	Sulfide (9034)	Water	BQL	1.0	mg/L	06/12/2006

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

**Sample ID:** GWC-13/MW-13

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** JA

**ACL Sample #:** 244065 **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	15	5	Trichlorofluoromethane	92	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	8	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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Acid Extractables (8270C) - Appendix II**

---

**Sample ID:** GWC-13/MW-13

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/13/2006  
**Analyst:** RB

**ACL Sample #:** 244065      **Units:** µg/L

---

<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

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

### Base Neutral Extractables (8270C) - Appendix II

**Sample ID:** GWC-13/MW-13

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/13/2006

**ACL Sample #:** 244065

**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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Base Neutral Extractables (8270C) - Appendix II**

---

**Sample ID:** GWC-13/MW-13

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/13/2006  
**Analyst:** RB

**ACL Sample #:** 244065      **Units:** µg/L

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<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
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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**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

---

**Sample ID:** GWC-13/MW-13

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/20/2006  
**Analyst:** AM

**ACL Sample #:** 244065      **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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**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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**Chlorinated Herbicides (8151A) - Appendix II**

---

**Sample ID:** GWC-13/MW-13

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/08/2006

**Date Analyzed:** 06/23/2006

**ACL Sample #:** 244065      **Units:** µg/L

**Analyst:** AM

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<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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Miscellaneous Organics (8011) - Appendix II**

---

**Sample ID:** GWC-13/MW-13

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/15/2006  
**Analyst:** AD

**ACL Sample #:** 244065      **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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

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**Sample ID:** GWC-13/MW-13

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** AD/JR

**ACL Sample #:** 244065      **Units:** mg/L

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<u>Analyte</u>	<u>Result</u>	<u>PQL</u>
Antimony	BQL	0.006
Arsenic	BQL	0.010
Barium	0.051	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	0.213	0.020

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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	244065	Cyanide (9012A)	Water	BQL	0.020	mg/L	06/15/2006
GWC-13/MW-13	244065	Sulfide (9034)	Water	BQL	1.0	mg/L	06/12/2006

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**Contact:** Mr. Kurt Batsel

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

**Sample ID:** GWA-15/MW-15

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:**

**Date Analyzed:** 06/12/2006

**ACL Sample #:** 244066 **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	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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**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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**Acid Extractables (8270C) - Appendix II**

---

**Sample ID:** GWA-15/MW-15

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/13/2006  
**Analyst:** RB

**ACL Sample #:** 244066      **Units:** µg/L

---

<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

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

### Base Neutral Extractables (8270C) - Appendix II

**Sample ID:** GWA-15/MW-15

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/13/2006

**ACL Sample #:** 244066 **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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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Base Neutral Extractables (8270C) - Appendix II**

---

**Sample ID:** GWA-15/MW-15

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/13/2006  
**Analyst:** RB

**ACL Sample #:** 244066      **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

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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

---

**Sample ID:** GWA-15/MW-15

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:** 06/12/2006  
**Date Analyzed:** 06/20/2006  
**Analyst:** AM

**ACL Sample #:** 244066      **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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**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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**Chlorinated Herbicides (8151A) - Appendix II**

---

**Sample ID:** GWA-15/MW-15

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/08/2006

**Date Analyzed:** 06/23/2006

**ACL Sample #:** 244066      **Units:** µg/L

**Analyst:** AM

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<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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Miscellaneous Organics (8011) - Appendix II**

---

**Sample ID:** GWA-15/MW-15

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/15/2006

**Analyst:** AD

**ACL Sample #:** 244066      **Units:** µg/L

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<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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---

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

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**Sample ID:** GWA-15/MW-15

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** AD/JR

**ACL Sample #:** 244066      **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	0.063	0.020

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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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	244066	Cyanide (9012A)	Water	BQL	0.020	mg/L	06/15/2006
GWA-15/MW-15	244066	Sulfide (9034)	Water	BQL	1.0	mg/L	06/12/2006

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

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

---

**Sample ID:** GWC-17/MW-17

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** JA

**ACL Sample #:** 244067      **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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Miscellaneous Organics (8011) - Appendix II**

---

**Sample ID:** GWC-17/MW-17

**Matrix:** Water

**Date Sampled:** 06/05/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/15/2006

**Analyst:** AD

**ACL Sample #:** 244067      **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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Appendix I Metals (6010B/7841/7041)**

---

**Sample ID:** GWC-17/MW-17

**Matrix:** Water  
**Date Sampled:** 06/05/2006  
**Date Extracted:**  
**Date Analyzed:** 06/12/2006  
**Analyst:** AD

**ACL Sample #:** 244067      **Units:** mg/L

---

<b>Analyte</b>	<b>Result</b>	<b>PQL</b>
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 #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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	244067	Mercury (7470A)	Water	BQL	0.0005	mg/L	06/12/2006

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

**Sample ID:** EQ Blank

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

**ACL Sample #:** 244068 **Units:** µg/L

Analyte	Result	PQL	Analyte	Result	PQL
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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Miscellaneous Organics (8011) - Appendix II**

---

**Sample ID:** EQ Blank

**Matrix:** Water

**Date Sampled:** 06/06/2006

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/15/2006

**Analyst:** AD

**ACL Sample #:** 244068      **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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Appendix I Metals (6010B/7841/7041)**

---

**Sample ID:** EQ Blank

**Matrix:** Water

**Date Sampled:** 06/06/2006

**Date Extracted:**

**Date Analyzed:** 06/12/2006

**ACL Sample #:** 244068      **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

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

**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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	244068	Mercury (7470A)	Water	BQL	0.0005	mg/L	06/12/2006

***ACL***

***ADVANCED CHEMISTRY LABS, INC.***

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**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)
244061	106	106	102	99
244062	108	110	102	99
244067	112	111	104	100
244068	106	113	104	96

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**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

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

---

ACL Sample #	Dibromofluoromethane (77-137)	1,2-Dichloroethane-d4 (72-138)	Toluene-d8 (84-112)	4-Bromofluorobenzene (77-125)
244063	111	110	101	96
244064	110	107	98	104
244065	112	110	100	102
244066	113	104	102	97



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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

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

**Sample ID:** -----

**Matrix:** Water

**Date Sampled:** -----

**Date Extracted:**

**Date Analyzed:** 06/12/2006

**Analyst:** JA

**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			

# 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)

22.94

# 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 #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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)
244063	11	23	36
244064	14	26	29
244065	13	23	67
244066	15	24	17

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**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Acid Extractables (8270C) - Appendix II**

---

**Sample ID:** -----

**Matrix:** Water

**Date Sampled:** -----

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/13/2006

**Analyst:** RB

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

---

<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 : 06-13-06

Matrix Spike - Sample No.: LCS/LCSD

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	MS CONCENTRATION (µg/L)	MS % REC #	QC. LIMITS REC.
Pentachlorophenol	200	0	156	78.0	(9-103)
Phenol	200	0	40	20.0	(12-89)
2-Chlorophenol	200	0	168	84.0	(27-123)
4-Chloro-3-methylphenol	200	0	159	79.5	(23-97)
4-Nitrophenol	200	0	53	26.5	(10-80)

COMPOUND	SPIKE ADDED (µg/L)	MSD CONCENTRATION (µg/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Pentachlorophenol	200	135	77.0	1.3	50	(9-103)
Phenol	200	34	17.0	16.2	42	(12-89)
2-Chlorophenol	200	156	78.0	7.4	40	(27-123)
4-Chloro-3-methylphenol	200	156	78.0	1.9	42	(23-97)
4-Nitrophenol	200	50	25.0	5.8	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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Marietta, GA 30068-0000

**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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)
244063	81	68	108
244064	67	58	100
244065	85	73	60
244066	105	93	51

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**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

### Base Neutral Extractables (8270C) - Appendix II

**Sample ID:** -----

**Matrix:** Water

**Date Sampled:** -----

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/13/2006

**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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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Base Neutral Extractables (8270C) - Appendix II**

---

**Sample ID:** -----

**Matrix:** Water

**Date Sampled:** -----

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/13/2006

**Analyst:** RB

**ACL Sample #:**    **Blank**    **Units:**     $\mu\text{g/L}$

---

<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 # 1

BASE/NEUTRAL EXTRACTABLES (8270C)

WATER SEMI-VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Sequence Date : 06-13-06

Matrix Spike - Sample No.: LCS/LCSD

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	MS CONCENTRATION (µg/L)	MS % REC #	QC. LIMITS REC.
1,2,4-Trichlorobenzene	100	0	88	88.0	(39-98)
Acenaphthene	100	0	63	63.0	(46-118)
2,4-Dinitrotoluene	100	0	63	63.0	(24-96)
Di-n-butyl phthalate	100	0	110	110.0	(11-117)
Pyrene	100	0	119	119.0	(26-127)
N-Nitrosodi-n-propylamine	100	0	88	88.0	(41-116)
1,4-Dichlorobenzene	100	0	95	95.0	(36-97)

COMPOUND	SPIKE ADDED µg/L	MSD CONCENTRATION µg/L	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
1,2,4-Trichlorobenzene	100	87	81.0	8.3	28	(39-98)
Acenaphthene	100	85	85.0	29.7	31	(46-118)
2,4-Dinitrotoluene	100	70	70.0	10.5	38	(24-96)
Di-n-butyl phthalate	100	99	99.0	10.5	40	(11-117)
Pyrene	100	124	124.0	4.1	31	(26-127)
N-Nitrosodi-n-propylamine	100	86	86.0	2.3	38	(41-116)
1,4-Dichlorobenzene	100	75	75.0	23.5	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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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

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

---

ACL Sample #	TCMX (30-130)	DCBP (30-130)
244063	167**	97
244064	90	48
244065	170**	58
244066	78	55

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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

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

---

**Sample ID:** -----

**Matrix:** Water

**Date Sampled:** -----

**Date Extracted:** 06/12/2006

**Date Analyzed:** 06/20/2006

**Analyst:** AM

**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
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

---

# 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 #: LCS

Matrix: WATER

Extraction Date: 6/12/06

Analysis Date: 6/20/06

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	4.318	0.500	0.000	0.504	101	4.317	0.505	101	0	25	40	160
g-BHC (Lindane)	4.870	0.500	0.000	0.473	95	4.869	0.475	95	0	25	40	160
b-BHC	5.066	0.500	0.000	0.428	86	5.065	0.430	86	0	25	40	160
d-BHC	5.431	0.500	0.000	0.457	91	5.431	0.460	92	0	25	40	160
Heptachlor	5.798	0.500	0.000	0.445	89	5.797	0.447	89	0	25	40	160
Aldrin	6.453	0.500	0.000	0.471	94	6.454	0.473	95	0	25	40	160
Heptachlor Epoxide	7.935	0.500	0.000	0.484	97	7.936	0.486	97	0	25	40	160
DDE	8.927	0.500	0.000	0.323	65	8.933	0.361	72	11	25	40	160
a-Endosulfan I	8.957	0.500	0.000	0.600	120	8.958	0.564	113	6	25	40	160
Dieldrin	9.648	0.500	0.000	0.460	92	9.649	0.421	84	9	25	40	160
Endrin	10.300	0.500	0.000	0.369	74	10.302	0.409	82	10	25	40	160
DDD	10.669	0.500	0.000	0.468	94	10.670	0.472	94	1	25	40	160
b-Endosulfan II	10.994	0.500	0.000	0.493	99	10.995	0.498	100	1	25	40	160
DDT	11.497	0.500	0.000	0.554	111	11.499	0.558	112	1	25	40	160
Endrin Aldehyde	12.296	0.500	0.000	0.444	89	12.298	0.448	90	1	25	40	160
Methoxychlor	13.213	0.500	0.000	0.663	133	13.220	0.716	143	8	25	40	160
Endosulfan Sulfate	13.684	0.500	0.000	0.418	84	13.686	0.424	85	1	25	40	160
Endrin Ketone	14.550	0.500	0.000	0.441	88	14.552	0.446	89	1	25	40	160

Pesticide Calculation based on curve prep. on

01/24/06

\* Outside QC limits

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

**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Chlorinated Herbicides (8151A) - Appendix II**  
**SURROGATE PERCENT RECOVERY SUMMARY**  
**Water**

---

ACL Sample #	DCAA (30-130)
244063	48
244064	49
244065	108
244066	119

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**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

**Chlorinated Herbicides (8151A) - Appendix II**

---

**Sample ID:** -----

**Matrix:** Water

**Date Sampled:** -----

**Date Extracted:** 06/08/2006

**Date Analyzed:** 06/13/2006

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

**Analyst:** AM

---

<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, INC.

### Chlorinated Herbicides (8151A) - Appendix II Water Matrix Spike/Spike Duplicate Recoveries

Instrument : HP5890A (w/Dual ECDs)  
Date Extracted : 06-08-06  
Date Analyzed : 06-13-06  
ACL Sample No.: LCS060806

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	
2,4-D	4.00	0.000	1.79	45	1.72	43	4	25	40	160
Dinoseb	0.800	0.000	0.643	80	0.657	82	2	25	40	160
2,4,5-TP (Silvex)	0.800	0.000	0.655	82	0.630	79	4	25	40	160
2,4,5-T	0.800	0.000	0.958	120	0.928	116	3	25	40	160

\* Outside QC Limits

Comment :

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

**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

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

---

Bromofluorobenzene (40-140)	
ACL Sample #	
244061	111
244062	112
244063	109
244064	108
244065	121
244066	110
244067	109
244068	106



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Marietta, GA 30068-0000

**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**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

**Analyst:** AM

**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, INC.

### EDB/DBCP (8011)

Water Matrix Spike/Spike Duplicate Recoveries

Instrument : HP5890A-ECD GC#2  
Date Extracted : 06-12-06  
Date Analyzed : 06-14-06  
ACL Sample No.: LCSW061206

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:** The Dextra Group  
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Marietta, GA 30068-0000

**Client Proj #:** Vogtle LF #3  
**ACL Project #:** 50727  
**Date Received:** 06/08/2006  
**Date Reported:** 07/06/2006

**Contact:** Mr. Kurt Batsel

---

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

---

**Sample ID:** -----

**Matrix:** Water

**Date Sampled:** -----

**Date Extracted:**

**Date Analyzed:** 06/12/2006

**Analyst:** AD/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 : 06-09-06  
Date Analyzed : 06-12-06  
ACL Sample No.: 244066 (244068 for Hg)

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	0.181	91	0.183	91	1	20	70	130
Arsenic	0.200	0.000	0.190	95	0.191	95	0	20	75	125
Barium	1.000	0.000	0.982	98	0.996	100	1	20	75	125
Beryllium	0.200	0.000	0.198	99	0.201	101	2	20	75	125
Cadmium	0.050	0.000	0.047	94	0.048	96	2	20	75	125
Chromium	0.200	0.000	0.199	99	0.203	101	2	20	75	125
Cobalt	0.200	0.000	0.194	97	0.197	98	1	20	75	125
Copper	0.200	0.000	0.203	101	0.207	103	2	20	75	125
Lead	0.200	0.000	0.195	98	0.198	99	1	20	75	125
Mercury (7470A)	0.0020	0.0000	0.0021	107	0.0022	108	1	20	70	130
Nickel	0.200	0.000	0.195	98	0.198	99	2	20	75	125
Selenium	0.050	0.000	0.045	90	0.046	92	2	20	75	125
Silver	0.020	0.000	0.019	96	0.019	96	0	20	75	125
Tin	0.200	0.000	0.189	94	0.191	95	1	20	75	125
Thallium (7841)	0.200	0.000	0.185	93	0.190	95	3	20	70	130
Vanadium	0.500	0.000	0.479	96	0.487	97	2	20	75	125
Zinc	0.200	0.063	0.256	96	0.257	97	1	20	75	125

\* Outside QC Limits

Comment :

**ACL****ADVANCED CHEMISTRY LABS, INC.**

3039 Arnwiler Road • Suite 100 • Atlanta, GA 30360 ■ P. O. Box 88610 • Atlanta, GA 30356 ■ (770) 409-1444 • Fax (770) 409-1844

Company Name: <b>THE DEXTRA GROUP</b>		Phone #: <b>(770) 578-9696</b>		<b>CHAIN-OF CUSTODY RECORD AND ANALYSIS REQUEST</b>			
Company Address: <b>1205 Johnson Ferry Rd. Ste 136-446 Marietta, GA. 30068</b>		Fax #: <b>(770) 321-5345</b>					
Site Location: <b>WAYNESBORO, GA.</b>		<b>ANALYSIS REQUEST</b>					
Project Manager: <b>MR. Kurt Batzel</b>						Client Project: (#) <b>(Name) VOGTLE LF #3</b>	
I attest that the proper field sampling procedures were used during the collection of these samples. <b>Tiffany Messer/Josh Theodorick</b>						Sampler Name (Print):	
Field Sample ID	# Container	Matrix	Method Preserved	Sampling	Date	Time	Remarks
		Water Soil Air Sludge Product Other	HCl HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> Ice None Other				
GWC-5/MW-5	5	X		2	6/5/06	13:30	
GWC-6/MW-6	5	X		2	6/5/06	14:45	
GWA-7/MW-7	12	X		2	6/5/06	13:30	
GWA-7/MW-7(DWP)	12	X		2	6/5/06	13:30	
GWC-13/MW-13	10	X		2	6/5/06	16:00	
GWA-15/MW-15	10	X		2	6/5/06	13:30	
GWC-17/MW-17	5	X		2	6/5/06	17:15	
EQ-BLANK	5	X		2	6/6/06	11:30	
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 Reporting Requirements				Lab Use Only: ACL Project #: <b>50727</b>		Cooler Temp. <b>3.3</b> °C	
Fax <input type="checkbox"/>				QA/QC Level Level 1 <input type="checkbox"/> Level 2 <input checked="" type="checkbox"/> Other <input type="checkbox"/>		Special Handling ACL Contact _____ Quote # _____ P. O. _____	
<b>CUSTODY RECORD</b>	Relinquished by Sampler: <b>Tiffany Messer</b>		Date: <b>6/8/06</b> Time: <b>09:50</b>		Received by: _____		
	Relinquished by: _____		Date: _____ Time: _____		Received by: _____		
	Relinquished by: _____		Date: <b>6/8/06</b> Time: <b>9:50</b>		Received by Laboratory: <b>Le. Bartholomeu</b> Waybill # _____		

## **APPENDIX C – STATISTICAL ANALYSES**

---

## Concentrations (mg/L)

### Parameter: Barium

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 65

Total Non-Detect: 40

Percent Non-Detects: 61.5385%

Total Background Samples: 11

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1511	11 (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
			6/5/2006	ND<0.01	ND<0.02

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWB-6/MW-6	11	11 (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
			6/5/2006	ND<0.01	ND<0.02
GWC-13/MW-1311		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
			6/5/2006	0.051	0.051
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
GWC-5/MW-5	11	6 (54.5455%)	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
			6/5/2006	0.031	0.031
GWC-17/MW-173		3 (100%)	6/15/2005	ND<0.01	ND<0.02
			12/6/2005	ND<0.01	ND<0.02
			6/5/2006	ND<0.01	ND<0.02
GWC-18/MW-181		1 (100%)	6/15/2005	ND<0.01	ND<0.02
GWA-7/MW-7	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
			12/3/2002	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
			6/5/2006 ~	ND<0.01	ND<0.02

There is 1 unused well

Well	Samples	ND	Date	Result	Original
EQ-Blank	7	7 (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
			6/6/2006	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 = 65

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	0.005	-2.17009	4.70929	-0.0108505
2	0.005	-1.88079	8.24666	-0.0202544
3	0.01	-1.6954	11.121	-0.0372084
4	0.01	-1.55477	13.5384	-0.0527561
5	0.01	-1.43953	15.6106	-0.0671514
6	0.01	-1.34075	17.4082	-0.0805589
7	0.01	-1.24809	18.9659	-0.0930398
8	0.01	-1.17	20.3348	-0.10474
9	0.01	-1.09847	21.5415	-0.115725
10	0.01	-1.03215	22.6068	-0.126046
11	0.01	-0.970094	23.5479	-0.135747
12	0.01	-0.911562	24.3788	-0.144863
13	0.01	-0.855996	25.1116	-0.153423
14	0.01	-0.7995	25.7508	-0.161418
15	0.01	-0.748762	26.3114	-0.168905
16	0.01	-0.699883	26.8013	-0.175904
17	0.01	-0.652622	27.2272	-0.18243
18	0.01	-0.606775	27.5954	-0.188498
19	0.01	-0.56217	27.9114	-0.19412
20	0.01	-0.515791	28.1774	-0.199278
21	0.01	-0.473299	28.4014	-0.204011
22	0.01	-0.431644	28.5878	-0.208327
23	0.01	-0.390726	28.7404	-0.212234
24	0.01	-0.350451	28.8632	-0.215739
25	0.01	-0.310738	28.9598	-0.218846
26	0.01	-0.271509	29.0335	-0.221561
27	0.01	-0.230118	29.0865	-0.223862
28	0.01	-0.191671	29.1232	-0.225779
29	0.01	-0.153505	29.1468	-0.227314
30	0.01	-0.115562	29.1601	-0.22847
31	0.01	-0.0777834	29.1662	-0.229248
32	0.01	-0.0401167	29.1678	-0.229649
33	0.01	0	29.1678	-0.229649
34	0.01	0.0401167	29.1694	-0.229248
35	0.01	0.0777834	29.1754	-0.22847
36	0.01	0.115562	29.1888	-0.227314
37	0.01	0.153505	29.2124	-0.225779
38	0.01	0.191671	29.2491	-0.223862
39	0.01	0.230118	29.3021	-0.221561
40	0.01	0.271509	29.3758	-0.218846
41	0.015	0.310738	29.4723	-0.214185
42	0.018	0.350451	29.5951	-0.207877
43	0.02	0.390726	29.7478	-0.200062
44	0.023	0.431644	29.9341	-0.190135
45	0.0295	0.473299	30.1581	-0.176172
46	0.03	0.515791	30.4242	-0.160699

47	0.031	0.56217	30.7402	-0.143271
48	0.0325	0.606775	31.1084	-0.123551
49	0.034	0.652622	31.5343	-0.101362
50	0.036	0.699883	32.0241	-0.0761662
51	0.04	0.748762	32.5848	-0.0462157
52	0.043	0.7995	33.224	-0.0118372
53	0.044	0.855996	33.9567	0.0258266
54	0.051	0.911562	34.7877	0.0723162
55	0.051	0.970094	35.7287	0.121791
56	0.064	1.03215	36.7941	0.187849
57	0.068	1.09847	38.0007	0.262545
58	0.077	1.17	39.3696	0.352635
59	0.082	1.24809	40.9273	0.454978
60	0.083	1.34075	42.725	0.566261
61	0.085	1.43953	44.7972	0.688621
62	0.0935	1.55477	47.2145	0.833992
63	0.106	1.6954	50.0889	1.0137
64	0.142	1.88079	53.6263	1.28078

---

Sample Standard Deviation = 0.0351945

Numerator = 1.64039

Denominator = 4.25116 = 64 53.6263

W Statistic = 0.385868

5% Critical value of 0.965 exceeds 0.385868

Evidence of non-normality at 95% level of significance

1% Critical value of 0.948 exceeds 0.385868

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	20.5
	9/24/2002	ND<0.01	20.5
	10/21/2002 ~	ND<0.01	20.5
	12/3/2002	ND<0.005	20.5
	6/24/2003	ND<0.01	20.5
	12/17/2003	ND<0.01	20.5
	6/15/2004	ND<0.01	20.5
	12/28/2004	ND<0.01	20.5
	6/14/2005	ND<0.01	20.5
	12/5/2005	ND<0.01	20.5
	6/5/2006	ND<0.01	20.5

Rank Sum = 225.5

Rank Mean = 20.5

Background Rank Sum = 225.5

Background Rank Mean = 20.5

### Compliance Wells

---

Well ID	Date	Result	Rank
GWB-6/MW-6	7/30/2002	ND<0.01	20.5
	9/24/2002	ND<0.01	20.5
	10/21/2002	ND<0.01	20.5
	12/3/2002	ND<0.005	20.5
	6/24/2003	ND<0.01	20.5
	12/17/2003	ND<0.01	20.5
	6/15/2004	ND<0.01	20.5
	12/28/2004	ND<0.01	20.5
	6/13/2005	ND<0.01	20.5
	12/5/2005	ND<0.01	20.5
	6/5/2006	ND<0.01	20.5

Rank Sum = 225.5

Rank Mean = 20.5

---

GWC-13/MW-13	7/30/2002	0.077	58
	9/24/2002	0.085	61
	10/21/2002	0.083	60
	12/3/2002	0.082	59
	6/24/2003 ~	0.0295	45
	12/17/2003 ~	0.0325	48
	6/15/2004 ~	0.034	49
	12/28/2004	0.043	52
	6/13/2005 ~	0.03	46
	12/6/2005	0.044	53
	6/5/2006	0.051	54

Rank Sum = 585  
Rank Mean = 53.1818

---

GWC-14/MW-147/30/2002	0.068	57
9/24/2002 ~	0.0935	62
10/21/2002	0.064	56
12/3/2002	0.106	63
6/24/2003	0.051	55
12/17/2003	0.189	65

Rank Sum = 358  
Rank Mean = 59.6667

---

GWC-5/MW-5	7/30/2002	ND<0.01	20.5
	9/24/2002	0.02	43
	10/21/2002	ND<0.01	20.5
	12/3/2002	0.018	42
	6/24/2003	ND<0.01	20.5
	12/17/2003	0.142	64
	6/15/2004	0.04	51
	12/28/2004	ND<0.01	20.5
	6/13/2005	ND<0.01	20.5
	12/6/2005	ND<0.01	20.5
	6/5/2006	0.031	47

Rank Sum = 370  
Rank Mean = 33.6364

---

GWC-17/MW-176/15/2005	ND<0.01	20.5
12/6/2005	ND<0.01	20.5
6/5/2006	ND<0.01	20.5

Rank Sum = 61.5  
Rank Mean = 20.5

---

GWC-18/MW-186/15/2005	ND<0.01	20.5
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Rank Sum = 20.5  
Rank Mean = 20.5

---

GWA-7/MW-7	7/30/2002 ~	ND<0.01	20.5
	9/24/2002	ND<0.01	20.5
	10/21/2002	ND<0.01	20.5
	12/3/2002	0.015	41
	6/24/2003	0.036	50
	12/17/2003	ND<0.01	20.5
	6/15/2004	ND<0.01	20.5
	12/28/2004 ~	ND<0.01	20.5
	6/14/2005	ND<0.01	20.5
	12/6/2005 ~	0.023	44
	6/5/2006 ~	ND<0.01	20.5

Rank Sum = 299  
Rank Mean = 27.1818

---

## Calculation Results:

Kruskal-Wallis H Statistic = 36.8849

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 48.087

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

36.8849 > 14.0671 indicating a significant group difference at 5% significance level

48.087 > 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 20.5

Well	Mean Rank	Dif from Bkg	Critical Value
GWB-6/MW-6	20.5	0	18.7556
GWC-13/MW-13	53.1818	32.6818	18.7556
GWC-14/MW-14	59.6667	39.1667	22.3236
GWC-5/MW-5	33.6364	13.1364	18.7556
GWC-17/MW-17	20.5	0	28.6496
GWC-18/MW-18	20.5	0	45.9416
GWA-7/MW-7	27.1818	6.68182	18.7556

---

### 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 20.5

Well	Mean Rank	Dif from Bkg	Critical Value
GWB-6/MW-6	20.5	0	19.8112
GWC-13/MW-13	53.1818	32.6818	19.8112
GWC-14/MW-14	59.6667	39.1667	23.58
GWC-5/MW-5	33.6364	13.1364	19.8112
GWC-17/MW-17	20.5	0	30.2621
GWC-18/MW-18	20.5	0	48.5272
GWA-7/MW-7	27.1818	6.68182	19.8112

## Concentrations (mg/L)

### Parameter: Zinc

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 65

Total Non-Detect: 43

Percent Non-Detects: 66.1538%

Total Background Samples: 11

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1511		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
			12/3/2002	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
			6/5/2006	0.063	0.063

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWB-6/MW-6	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
			12/3/2002	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
			6/5/2006	0.083	0.083
GWC-13/MW-1311		4 (36.3636%)	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
			6/5/2006	0.213	0.213
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 12/17/2003	ND<0.01 0.127	ND<0.02 0.127
GWC-5/MW-5	11	8 (72.7273%)	7/30/2002 9/24/2002 10/21/2002 12/3/2002 6/24/2003 12/17/2003 6/15/2004 12/28/2004 6/13/2005 12/6/2005 6/5/2006	ND<0.01 ND<0.01 ND<0.01 ND<0.01 ND<0.01 0.032 ND<0.01 ND<0.01 ND<0.01 0.055 0.1	ND<0.02 ND<0.02 ND<0.02 ND<0.02 ND<0.02 0.032 ND<0.02 ND<0.02 ND<0.02 0.055 0.1
GWC-17/MW-173		1 (33.3333%)	6/15/2005 12/6/2005 6/5/2006	ND<0.01 0.096 0.077	ND<0.02 0.096 0.077
GWC-18/MW-181		1 (100%)	6/15/2005	ND<0.01	ND<0.02
GWA-7/MW-7	11	7 (63.6364%)	7/30/2002 ~ 9/24/2002 10/21/2002 12/3/2002 6/24/2003 12/17/2003 6/15/2004 12/28/2004 ~ 6/14/2005 12/6/2005 ~ 6/5/2006 ~	ND<0.01 ND<0.01 ND<0.01 ND<0.01 0.034 0.023 ND<0.01 ND<0.01 ND<0.01 0.1425 0.375	ND<0.02 ND<0.02 ND<0.02 ND<0.02 0.034 0.023 ND<0.02 ND<0.02 ND<0.02 0.1425 0.375

There is 1 unused well

Well	Samples	ND	Date	Result	Original
EQ-Blank	7	7 (100%)	6/24/2003 12/17/2003 6/15/2004 12/28/2004 ~ 6/15/2005 ~ 12/6/2005 6/6/2006	ND<0.01 ND<0.01 ND<0.01 ND<0.01 ND<0.01 ND<0.01 ND<0.01	ND<0.02 ND<0.02 ND<0.02 ND<0.02 ND<0.02 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 1/2 DL

Total Sample Size = 65

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	0.01	-2.17009	4.70929	-0.0217009
2	0.01	-1.88079	8.24666	-0.0405088
3	0.01	-1.6954	11.121	-0.0574628
4	0.01	-1.55477	13.5384	-0.0730105
5	0.01	-1.43953	15.6106	-0.0874058
6	0.01	-1.34075	17.4082	-0.100813
7	0.01	-1.24809	18.9659	-0.113294
8	0.01	-1.17	20.3348	-0.124994
9	0.01	-1.09847	21.5415	-0.135979
10	0.01	-1.03215	22.6068	-0.1463
11	0.01	-0.970094	23.5479	-0.156001
12	0.01	-0.911562	24.3788	-0.165117
13	0.01	-0.855996	25.1116	-0.173677
14	0.01	-0.7995	25.7508	-0.181672
15	0.01	-0.748762	26.3114	-0.18916
16	0.01	-0.699883	26.8013	-0.196158
17	0.01	-0.652622	27.2272	-0.202685
18	0.01	-0.606775	27.5954	-0.208752
19	0.01	-0.56217	27.9114	-0.214374
20	0.01	-0.515791	28.1774	-0.219532
21	0.01	-0.473299	28.4014	-0.224265
22	0.01	-0.431644	28.5878	-0.228581
23	0.01	-0.390726	28.7404	-0.232489
24	0.01	-0.350451	28.8632	-0.235993
25	0.01	-0.310738	28.9598	-0.239101
26	0.01	-0.271509	29.0335	-0.241816
27	0.01	-0.230118	29.0865	-0.244117
28	0.01	-0.191671	29.1232	-0.246034
29	0.01	-0.153505	29.1468	-0.247569
30	0.01	-0.115562	29.1601	-0.248724
31	0.01	-0.0777834	29.1662	-0.249502
32	0.01	-0.0401167	29.1678	-0.249903
33	0.01	0	29.1678	-0.249903
34	0.01	0.0401167	29.1694	-0.249502
35	0.01	0.0777834	29.1754	-0.248724
36	0.01	0.115562	29.1888	-0.247569
37	0.01	0.153505	29.2124	-0.246034
38	0.01	0.191671	29.2491	-0.244117
39	0.01	0.230118	29.3021	-0.241816
40	0.01	0.271509	29.3758	-0.239101
41	0.01	0.310738	29.4723	-0.235993
42	0.01	0.350451	29.5951	-0.232489
43	0.01	0.390726	29.7478	-0.228581
44	0.02	0.431644	29.9341	-0.219949
45	0.02	0.473299	30.1581	-0.210483
46	0.023	0.515791	30.4242	-0.198619



47	0.023	0.56217	30.7402	-0.185689
48	0.027	0.606775	31.1084	-0.169307
49	0.027	0.652622	31.5343	-0.151686
50	0.029	0.699883	32.0241	-0.131389
51	0.032	0.748762	32.5848	-0.107429
52	0.034	0.7995	33.224	-0.0802457
53	0.042	0.855996	33.9567	-0.0442939
54	0.044	0.911562	34.7877	-0.00418521
55	0.055	0.970094	35.7287	0.04917
56	0.063	1.03215	36.7941	0.114196
57	0.077	1.09847	38.0007	0.198778
58	0.083	1.17	39.3696	0.295888
59	0.096	1.24809	40.9273	0.415704
60	0.1	1.34075	42.725	0.54978
61	0.127	1.43953	44.7972	0.7326
62	0.1425	1.55477	47.2145	0.954155
63	0.194	1.6954	50.0889	1.28306
64	0.213	1.88079	53.6263	1.68367

---

Sample Standard Deviation = 0.0604282

Numerator = 2.83475

Denominator = 12.5325 = 64 53.6263

W Statistic = 0.226192

5% Critical value of 0.965 exceeds 0.226192

Evidence of non-normality at 95% level of significance

1% Critical value of 0.948 exceeds 0.226192

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

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Well ID	Date	Result	Rank
GWA-15/MW-15	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
	6/14/2005	0.029	50
	12/5/2005	0.042	53
	6/5/2006	0.063	56

Rank Sum = 335

Rank Mean = 30.4545

Background Rank Sum = 335

Background Rank Mean = 30.4545

### Compliance Wells

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Well ID	Date	Result	Rank
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
	6/5/2006	0.083	58

Rank Sum = 300

Rank Mean = 27.2727

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GWC-13/MW-13	7/30/2002	ND<0.01	22
	9/24/2002	0.023	46
	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	63
	6/5/2006	0.213	64

Rank Sum = 457  
Rank Mean = 41.5455

---

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	61

Rank Sum = 171  
Rank Mean = 28.5

---

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
	6/5/2006	0.1	60

Rank Sum = 342  
Rank Mean = 31.0909

---

GWC-17/MW-176/15/2005	ND<0.01	22
12/6/2005	0.096	59
6/5/2006	0.077	57

Rank Sum = 138  
Rank Mean = 46

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

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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	47
	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	62
	6/5/2006 ~	0.375	65

Rank Sum = 380  
Rank Mean = 34.5455

---

### Calculation Results:

Kruskal-Wallis H Statistic = 5.7377

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 8.0747

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

5.7377 < 14.0671 indicating no significant group difference at 5% significance level

8.0747 < 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: 65

Total Non-Detect: 49

Percent Non-Detects: 75.3846%

Total Background Samples: 11

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1511	11 (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
			6/5/2006	ND<2.5	ND<5

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWB-6/MW-6	11	11 (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
			6/5/2006	ND<2.5	ND<5
GWC-13/MW-1311	1 (9.09091%)		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
			6/5/2006	15	15
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	11	11 (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
			6/5/2006	ND<2.5	ND<5
GWC-17/MW-173		3 (100%)	6/15/2005	ND<2.5	ND<5
			12/6/2005	ND<2.5	ND<5
			6/5/2006	ND<2.5	ND<5
GWC-18/MW-181		1 (100%)	6/15/2005	ND<2.5	ND<5
GWA-7/MW-7	11	11 (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
			6/5/2006 ~	ND<2.5	ND<5

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	7	7 (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
			6/6/2006	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 = 65

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2.5	-2.17009	4.70929	-5.42523
2	2.5	-1.88079	8.24666	-10.1272
3	2.5	-1.6954	11.121	-14.3657
4	2.5	-1.55477	13.5384	-18.2526
5	2.5	-1.43953	15.6106	-21.8515
6	2.5	-1.34075	17.4082	-25.2033
7	2.5	-1.24809	18.9659	-28.3236
8	2.5	-1.17	20.3348	-31.2486
9	2.5	-1.09847	21.5415	-33.9947
10	2.5	-1.03215	22.6068	-36.5751
11	2.5	-0.970094	23.5479	-39.0003
12	2.5	-0.911562	24.3788	-41.2793
13	2.5	-0.855996	25.1116	-43.4192
14	2.5	-0.7995	25.7508	-45.418
15	2.5	-0.748762	26.3114	-47.2899
16	2.5	-0.699883	26.8013	-49.0396
17	2.5	-0.652622	27.2272	-50.6712
18	2.5	-0.606775	27.5954	-52.1881
19	2.5	-0.56217	27.9114	-53.5935
20	2.5	-0.515791	28.1774	-54.883
21	2.5	-0.473299	28.4014	-56.0662
22	2.5	-0.431644	28.5878	-57.1454
23	2.5	-0.390726	28.7404	-58.1222
24	2.5	-0.350451	28.8632	-58.9983
25	2.5	-0.310738	28.9598	-59.7751
26	2.5	-0.271509	29.0335	-60.4539
27	2.5	-0.230118	29.0865	-61.0292
28	2.5	-0.191671	29.1232	-61.5084
29	2.5	-0.153505	29.1468	-61.8922
30	2.5	-0.115562	29.1601	-62.1811
31	2.5	-0.0777834	29.1662	-62.3755
32	2.5	-0.0401167	29.1678	-62.4758
33	2.5	0	29.1678	-62.4758
34	2.5	0.0401167	29.1694	-62.3755
35	2.5	0.0777834	29.1754	-62.1811
36	2.5	0.115562	29.1888	-61.8922
37	2.5	0.153505	29.2124	-61.5084
38	2.5	0.191671	29.2491	-61.0292
39	2.5	0.230118	29.3021	-60.4539
40	2.5	0.271509	29.3758	-59.7751
41	2.5	0.310738	29.4723	-58.9983
42	2.5	0.350451	29.5951	-58.1222
43	2.5	0.390726	29.7478	-57.1454
44	2.5	0.431644	29.9341	-56.0662
45	2.5	0.473299	30.1581	-54.883
46	2.5	0.515791	30.4242	-53.5935

47	2.5	0.56217	30.7402	-52.1881
48	2.5	0.606775	31.1084	-50.6712
49	2.5	0.652622	31.5343	-49.0396
50	6	0.699883	32.0241	-44.8403
51	6	0.748762	32.5848	-40.3477
52	7	0.7995	33.224	-34.7512
53	9	0.855996	33.9567	-27.0473
54	10	0.911562	34.7877	-17.9317
55	10	0.970094	35.7287	-8.23071
56	13	1.03215	36.7941	5.18729
57	15	1.09847	38.0007	21.6643
58	15	1.17	39.3696	39.2143
59	16	1.24809	40.9273	59.1837
60	16	1.34075	42.725	80.6358
61	17	1.43953	44.7972	105.108
62	18	1.55477	47.2145	133.094
63	18	1.6954	50.0889	163.611
64	20.5	1.88079	53.6263	202.167

---

Sample Standard Deviation = 5.38957

Numerator = 40871.5

Denominator = 99693.3 = 64 53.6263

W Statistic = 0.409973

5% Critical value of 0.965 exceeds 0.409973

Evidence of non-normality at 95% level of significance

1% Critical value of 0.948 exceeds 0.409973

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

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Well ID	Date	Result	Rank
GWA-15/MW-15	7/30/2002	ND<2.5	25
	9/24/2002	ND<2.5	25
	10/21/2002 ~	ND<2.5	25
	12/3/2002	ND<2.5	25
	6/24/2003	ND<2.5	25
	12/17/2003	ND<2.5	25
	6/15/2004	ND<2.5	25
	12/28/2004	ND<2.5	25
	6/14/2005	ND<2.5	25
	12/5/2005	ND<2.5	25
	6/5/2006	ND<2.5	25

Rank Sum = 275

Rank Mean = 25

Background Rank Sum = 275

Background Rank Mean = 25

### Compliance Wells

---

Well ID	Date	Result	Rank
GWB-6/MW-6	7/30/2002	ND<2.5	25
	9/24/2002	ND<2.5	25
	10/21/2002	ND<2.5	25
	12/3/2002	ND<2.5	25
	6/24/2003	ND<2.5	25
	12/17/2003	ND<2.5	25
	6/15/2004	ND<2.5	25
	12/28/2004	ND<2.5	25
	6/13/2005	ND<2.5	25
	12/5/2005	ND<2.5	25
	6/5/2006	ND<2.5	25

Rank Sum = 275

Rank Mean = 25

---

GWC-13/MW-13	7/30/2002	ND<2.5	25
	9/24/2002	6	50
	10/21/2002	6	51
	12/3/2002	7	52
	6/24/2003 ~	9	53
	12/17/2003 ~	20.5	64
	6/15/2004 ~	18	62
	12/28/2004	16	59
	6/13/2005 ~	15	57
	12/6/2005	18	63
	6/5/2006	15	58

Rank Sum = 594  
Rank Mean = 54

---

GWC-14/MW-147/30/2002	13	56
9/24/2002 ~	21	65
10/21/2002	17	61
12/3/2002	16	60
6/24/2003	10	54
12/17/2003	10	55

Rank Sum = 351  
Rank Mean = 58.5

---

GWC-5/MW-5	7/30/2002	ND<2.5	25
	9/24/2002	ND<2.5	25
	10/21/2002	ND<2.5	25
	12/3/2002	ND<2.5	25
	6/24/2003	ND<2.5	25
	12/17/2003	ND<2.5	25
	6/15/2004	ND<2.5	25
	12/28/2004	ND<2.5	25
	6/13/2005	ND<2.5	25
	12/6/2005	ND<2.5	25
	6/5/2006	ND<2.5	25

Rank Sum = 275  
Rank Mean = 25

---

GWC-17/MW-176/15/2005	ND<2.5	25
12/6/2005	ND<2.5	25
6/5/2006	ND<2.5	25

Rank Sum = 75  
Rank Mean = 25

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GWC-18/MW-186/15/2005	ND<2.5	25
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Rank Sum = 25  
Rank Mean = 25

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GWA-7/MW-7	7/30/2002 ~	ND<2.5	25
	9/24/2002	ND<2.5	25
	10/21/2002	ND<2.5	25
	12/3/2002	ND<2.5	25
	6/24/2003	ND<2.5	25
	12/17/2003	ND<2.5	25
	6/15/2004	ND<2.5	25
	12/28/2004 ~	ND<2.5	25
	6/14/2005	ND<2.5	25
	12/6/2005 ~	ND<2.5	25
	6/5/2006 ~	ND<2.5	25

Rank Sum = 275  
Rank Mean = 25

### Calculation Results:

Kruskal-Wallis H Statistic = 33.0755

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 57.8569

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

33.0755 > 14.0671 indicating a significant group difference at 5% significance level

57.8569 > 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 25

Well	Mean Rank	Dif from Bkg	Critical Value
GWB-6/MW-6	25	0	18.7556
GWC-13/MW-1354		29	18.7556
GWC-14/MW-1458.5		33.5	22.3236
GWC-5/MW-5	25	0	18.7556
GWC-17/MW-1725		0	28.6496
GWC-18/MW-1825		0	45.9416
GWA-7/MW-7	25	0	18.7556

---

### 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 25

Well	Mean Rank	Dif from Bkg	Critical Value
GWB-6/MW-6	25	0	19.8112
GWC-13/MW-1354		29	19.8112
GWC-14/MW-1458.5		33.5	23.58
GWC-5/MW-5	25	0	19.8112
GWC-17/MW-1725		0	30.2621
GWC-18/MW-1825		0	48.5272
GWA-7/MW-7	25	0	19.8112

## Concentrations (µg/L)

### Parameter: cis-1,2-Dichloroethene

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 65

Total Non-Detect: 52

Percent Non-Detects: 80%

Total Background Samples: 11

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1511	11 (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
			6/5/2006	ND<2.5	ND<5

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWB-6/MW-6	11	11 (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
			6/5/2006	ND<2.5	ND<5
GWC-13/MW-1311	4 (36.3636%)		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
			6/5/2006	8	8
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 12/17/2003	10 17	10 17
GWC-5/MW-5	11	11 (100%)	7/30/2002 9/24/2002 10/21/2002 12/3/2002 6/24/2003 12/17/2003 6/15/2004 12/28/2004 6/13/2005 12/6/2005 6/5/2006	ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5	ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5
GWC-17/MW-173		3 (100%)	6/15/2005 12/6/2005 6/5/2006	ND<2.5 ND<2.5 ND<2.5	ND<5 ND<5 ND<5
GWC-18/MW-181		1 (100%)	6/15/2005	ND<2.5	ND<5
GWA-7/MW-7	11	11 (100%)	7/30/2002 ~ 9/24/2002 10/21/2002 12/3/2002 6/24/2003 12/17/2003 6/15/2004 12/28/2004 ~ 6/14/2005 12/6/2005 ~ 6/5/2006 ~	ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5	ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	7	7 (100%)	6/24/2003 12/17/2003 6/15/2004 12/28/2004 ~ 6/15/2005 ~ 12/6/2005 6/6/2006	ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5	ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5
Trip Blank	3	3 (100%)	12/17/2003 6/13/2005 12/5/2005	ND<2.5 ND<2.5 ND<2.5	ND<5 ND<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 = 65

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2.5	-2.17009	4.70929	-5.42523
2	2.5	-1.88079	8.24666	-10.1272
3	2.5	-1.6954	11.121	-14.3657
4	2.5	-1.55477	13.5384	-18.2526
5	2.5	-1.43953	15.6106	-21.8515
6	2.5	-1.34075	17.4082	-25.2033
7	2.5	-1.24809	18.9659	-28.3236
8	2.5	-1.17	20.3348	-31.2486
9	2.5	-1.09847	21.5415	-33.9947
10	2.5	-1.03215	22.6068	-36.5751
11	2.5	-0.970094	23.5479	-39.0003
12	2.5	-0.911562	24.3788	-41.2793
13	2.5	-0.855996	25.1116	-43.4192
14	2.5	-0.7995	25.7508	-45.418
15	2.5	-0.748762	26.3114	-47.2899
16	2.5	-0.699883	26.8013	-49.0396
17	2.5	-0.652622	27.2272	-50.6712
18	2.5	-0.606775	27.5954	-52.1881
19	2.5	-0.56217	27.9114	-53.5935
20	2.5	-0.515791	28.1774	-54.883
21	2.5	-0.473299	28.4014	-56.0662
22	2.5	-0.431644	28.5878	-57.1454
23	2.5	-0.390726	28.7404	-58.1222
24	2.5	-0.350451	28.8632	-58.9983
25	2.5	-0.310738	28.9598	-59.7751
26	2.5	-0.271509	29.0335	-60.4539
27	2.5	-0.230118	29.0865	-61.0292
28	2.5	-0.191671	29.1232	-61.5084
29	2.5	-0.153505	29.1468	-61.8922
30	2.5	-0.115562	29.1601	-62.1811
31	2.5	-0.0777834	29.1662	-62.3755
32	2.5	-0.0401167	29.1678	-62.4758
33	2.5	0	29.1678	-62.4758
34	2.5	0.0401167	29.1694	-62.3755
35	2.5	0.0777834	29.1754	-62.1811
36	2.5	0.115562	29.1888	-61.8922
37	2.5	0.153505	29.2124	-61.5084
38	2.5	0.191671	29.2491	-61.0292
39	2.5	0.230118	29.3021	-60.4539
40	2.5	0.271509	29.3758	-59.7751
41	2.5	0.310738	29.4723	-58.9983
42	2.5	0.350451	29.5951	-58.1222
43	2.5	0.390726	29.7478	-57.1454
44	2.5	0.431644	29.9341	-56.0662
45	2.5	0.473299	30.1581	-54.883
46	2.5	0.515791	30.4242	-53.5935

47	2.5	0.56217	30.7402	-52.1881
48	2.5	0.606775	31.1084	-50.6712
49	2.5	0.652622	31.5343	-49.0396
50	2.5	0.699883	32.0241	-47.2899
51	2.5	0.748762	32.5848	-45.418
52	2.5	0.7995	33.224	-43.4192
53	6	0.855996	33.9567	-38.2833
54	8	0.911562	34.7877	-30.9908
55	8	0.970094	35.7287	-23.23
56	8	1.03215	36.7941	-14.9728
57	9	1.09847	38.0007	-5.08657
58	9.5	1.17	39.3696	6.02845
59	10	1.24809	40.9273	18.5093
60	10	1.34075	42.725	31.9168
61	14	1.43953	44.7972	52.0703
62	16	1.55477	47.2145	76.9466
63	17	1.6954	50.0889	105.768
64	18.5	1.88079	53.6263	140.563

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Sample Standard Deviation = 4.21375

Numerator = 19758

Denominator = 60938.8 = 64 53.6263

W Statistic = 0.324226

5% Critical value of 0.965 exceeds 0.324226

Evidence of non-normality at 95% level of significance

1% Critical value of 0.948 exceeds 0.324226

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

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Well ID	Date	Result	Rank
GWA-15/MW-15	7/30/2002	ND<2.5	26.5
	9/24/2002	ND<2.5	26.5
	10/21/2002 ~	ND<2.5	26.5
	12/3/2002	ND<2.5	26.5
	6/24/2003	ND<2.5	26.5
	12/17/2003	ND<2.5	26.5
	6/15/2004	ND<2.5	26.5
	12/28/2004	ND<2.5	26.5
	6/14/2005	ND<2.5	26.5
	12/5/2005	ND<2.5	26.5
	6/5/2006	ND<2.5	26.5

Rank Sum = 291.5

Rank Mean = 26.5

Background Rank Sum = 291.5

Background Rank Mean = 26.5

### Compliance Wells

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Well ID	Date	Result	Rank
GWB-6/MW-6	7/30/2002	ND<2.5	26.5
	9/24/2002	ND<2.5	26.5
	10/21/2002	ND<2.5	26.5
	12/3/2002	ND<2.5	26.5
	6/24/2003	ND<2.5	26.5
	12/17/2003	ND<2.5	26.5
	6/15/2004	ND<2.5	26.5
	12/28/2004	ND<2.5	26.5
	6/13/2005	ND<2.5	26.5
	12/5/2005	ND<2.5	26.5
	6/5/2006	ND<2.5	26.5

Rank Sum = 291.5

Rank Mean = 26.5

---

GWC-13/MW-13	7/30/2002	ND<2.5	26.5
	9/24/2002	ND<2.5	26.5
	10/21/2002	ND<2.5	26.5
	12/3/2002	ND<2.5	26.5
	6/24/2003 ~	6	53
	12/17/2003 ~	14	61
	6/15/2004 ~	9.5	58
	12/28/2004	8	54
	6/13/2005 ~	8	55
	12/6/2005	9	57
	6/5/2006	8	56



Rank Sum = 500  
Rank Mean = 45.4545

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GWC-14/MW-147/30/2002	10	59
9/24/2002 ~	18.5	64
10/21/2002	16	62
12/3/2002	19	65
6/24/2003	10	60
12/17/2003	17	63

Rank Sum = 373  
Rank Mean = 62.1667

---

GWC-5/MW-5	7/30/2002	ND<2.5	26.5
	9/24/2002	ND<2.5	26.5
	10/21/2002	ND<2.5	26.5
	12/3/2002	ND<2.5	26.5
	6/24/2003	ND<2.5	26.5
	12/17/2003	ND<2.5	26.5
	6/15/2004	ND<2.5	26.5
	12/28/2004	ND<2.5	26.5
	6/13/2005	ND<2.5	26.5
	12/6/2005	ND<2.5	26.5
	6/5/2006	ND<2.5	26.5

Rank Sum = 291.5  
Rank Mean = 26.5

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GWC-17/MW-176/15/2005	ND<2.5	26.5
12/6/2005	ND<2.5	26.5
6/5/2006	ND<2.5	26.5

Rank Sum = 79.5  
Rank Mean = 26.5

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GWC-18/MW-186/15/2005	ND<2.5	26.5
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Rank Sum = 26.5  
Rank Mean = 26.5

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GWA-7/MW-7	7/30/2002 ~	ND<2.5	26.5
	9/24/2002	ND<2.5	26.5
	10/21/2002	ND<2.5	26.5
	12/3/2002	ND<2.5	26.5
	6/24/2003	ND<2.5	26.5
	12/17/2003	ND<2.5	26.5
	6/15/2004	ND<2.5	26.5
	12/28/2004 ~	ND<2.5	26.5
	6/14/2005	ND<2.5	26.5
	12/6/2005 ~	ND<2.5	26.5
	6/5/2006 ~	ND<2.5	26.5

Rank Sum = 291.5  
Rank Mean = 26.5

---

## Calculation Results:

Kruskal-Wallis H Statistic = 24.7229

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 50.6546

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

24.7229 > 14.0671 indicating a significant group difference at 5% significance level

50.6546 > 14.0671 indicating a significant group difference at 5% significance level when adjusted for ties

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### Individual Well Comparisons at 1% Significance Level per Comparison

1% Z score is 2.32634

Mean background rank is 26.5

Well	Mean Rank	Dif from Bkg	Critical Value
GWB-6/MW-6	26.5	0	18.7556
GWC-13/MW-13	45.4545	18.9545	18.7556
GWC-14/MW-14	62.1667	35.6667	22.3236
GWC-5/MW-5	26.5	0	18.7556
GWC-17/MW-17	26.5	0	28.6496
GWC-18/MW-18	26.5	0	45.9416
GWA-7/MW-7	26.5	0	18.7556

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### 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 26.5

Well	Mean Rank	Dif from Bkg	Critical Value
GWB-6/MW-6	26.5	0	19.8112
GWC-13/MW-13	45.4545	18.9545	19.8112
GWC-14/MW-14	62.1667	35.6667	23.58
GWC-5/MW-5	26.5	0	19.8112
GWC-17/MW-17	26.5	0	30.2621
GWC-18/MW-18	26.5	0	48.5272
GWA-7/MW-7	26.5	0	19.8112

## Concentrations (µg/L)

### Parameter: Trichlorofluoromethane

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Total Samples: 65

Total Non-Detect: 38

Percent Non-Detects: 58.4615%

Total Background Samples: 11

There is 1 background well

Well	Samples	ND	Date	Result	Original
GWA-15/MW-1511	11 (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
			6/5/2006	ND<2.5	ND<5

There are 7 compliance wells

Well	Samples	ND	Date	Result	Original
GWB-6/MW-6	11	11 (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
			6/5/2006	ND<2.5	ND<5
GWC-13/MW-1311	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
			6/5/2006	92	92
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 12/17/2003	5 ND<2.5	5 ND<5
GWC-5/MW-5	11	11 (100%)	7/30/2002 9/24/2002 10/21/2002 12/3/2002 6/24/2003 12/17/2003 6/15/2004 12/28/2004 6/13/2005 12/6/2005 6/5/2006	ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5	ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5
GWC-17/MW-173		3 (100%)	6/15/2005 12/6/2005 6/5/2006	ND<2.5 ND<2.5 ND<2.5	ND<5 ND<5 ND<5
GWC-18/MW-181		1 (100%)	6/15/2005	ND<2.5	ND<5
GWA-7/MW-7	11	0 (0%)	7/30/2002 ~ 9/24/2002 10/21/2002 12/3/2002 6/24/2003 12/17/2003 6/15/2004 12/28/2004 ~ 6/14/2005 12/6/2005 ~ 6/5/2006 ~	184.5 32 221 210 23 34 46 144 22 86.5 80	184.5 32 221 210 23 34 46 144 22 86.5 80

There are 2 unused wells

Well	Samples	ND	Date	Result	Original
EQ-Blank	7	7 (100%)	6/24/2003 12/17/2003 6/15/2004 12/28/2004 ~ 6/15/2005 ~ 12/6/2005 6/6/2006	ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5 ND<2.5	ND<5 ND<5 ND<5 ND<5 ND<5 ND<5 ND<5
Trip Blank	3	3 (100%)	12/17/2003 6/13/2005 12/5/2005	ND<2.5 ND<2.5 ND<2.5	ND<5 ND<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 = 65

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2.5	-2.17009	4.70929	-5.42523
2	2.5	-1.88079	8.24666	-10.1272
3	2.5	-1.6954	11.121	-14.3657
4	2.5	-1.55477	13.5384	-18.2526
5	2.5	-1.43953	15.6106	-21.8515
6	2.5	-1.34075	17.4082	-25.2033
7	2.5	-1.24809	18.9659	-28.3236
8	2.5	-1.17	20.3348	-31.2486
9	2.5	-1.09847	21.5415	-33.9947
10	2.5	-1.03215	22.6068	-36.5751
11	2.5	-0.970094	23.5479	-39.0003
12	2.5	-0.911562	24.3788	-41.2793
13	2.5	-0.855996	25.1116	-43.4192
14	2.5	-0.7995	25.7508	-45.418
15	2.5	-0.748762	26.3114	-47.2899
16	2.5	-0.699883	26.8013	-49.0396
17	2.5	-0.652622	27.2272	-50.6712
18	2.5	-0.606775	27.5954	-52.1881
19	2.5	-0.56217	27.9114	-53.5935
20	2.5	-0.515791	28.1774	-54.883
21	2.5	-0.473299	28.4014	-56.0662
22	2.5	-0.431644	28.5878	-57.1454
23	2.5	-0.390726	28.7404	-58.1222
24	2.5	-0.350451	28.8632	-58.9983
25	2.5	-0.310738	28.9598	-59.7751
26	2.5	-0.271509	29.0335	-60.4539
27	2.5	-0.230118	29.0865	-61.0292
28	2.5	-0.191671	29.1232	-61.5084
29	2.5	-0.153505	29.1468	-61.8922
30	2.5	-0.115562	29.1601	-62.1811
31	2.5	-0.0777834	29.1662	-62.3755
32	2.5	-0.0401167	29.1678	-62.4758
33	2.5	0	29.1678	-62.4758
34	2.5	0.0401167	29.1694	-62.3755
35	2.5	0.0777834	29.1754	-62.1811
36	2.5	0.115562	29.1888	-61.8922
37	2.5	0.153505	29.2124	-61.5084
38	2.5	0.191671	29.2491	-61.0292
39	5	0.230118	29.3021	-59.8786
40	22	0.271509	29.3758	-53.9054
41	23	0.310738	29.4723	-46.7584
42	27	0.350451	29.5951	-37.2963
43	31	0.390726	29.7478	-25.1838
44	32	0.431644	29.9341	-11.3712
45	34	0.473299	30.1581	4.72099
46	43	0.515791	30.4242	26.9

47	44	0.56217	30.7402	51.6355
48	45.3333	0.606775	31.1084	79.1426
49	46	0.652622	31.5343	109.163
50	47.5	0.699883	32.0241	142.408
51	60	0.748762	32.5848	187.333
52	80	0.7995	33.224	251.293
53	81	0.855996	33.9567	320.629
54	86.5	0.911562	34.7877	399.479
55	92	0.970094	35.7287	488.728
56	99.5	1.03215	36.7941	591.427
57	127	1.09847	38.0007	730.933
58	144	1.17	39.3696	899.413
59	184.5	1.24809	40.9273	1129.68
60	210	1.34075	42.725	1411.24
61	221	1.43953	44.7972	1729.38
62	300	1.55477	47.2145	2195.81
63	348	1.6954	50.0889	2785.81
64	381	1.88079	53.6263	3502.39

---

Sample Standard Deviation = 93.8071

Numerator = 1.22667e+007

Denominator = 3.02015e+007 = 64 53.6263

W Statistic = 0.406163

5% Critical value of 0.965 exceeds 0.406163

Evidence of non-normality at 95% level of significance

1% Critical value of 0.948 exceeds 0.406163

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

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Well ID	Date	Result	Rank
GWA-15/MW-15	7/30/2002	ND<2.5	19.5
	9/24/2002	ND<2.5	19.5
	10/21/2002 ~	ND<2.5	19.5
	12/3/2002	ND<2.5	19.5
	6/24/2003	ND<2.5	19.5
	12/17/2003	ND<2.5	19.5
	6/15/2004	ND<2.5	19.5
	12/28/2004	ND<2.5	19.5
	6/14/2005	ND<2.5	19.5
	12/5/2005	ND<2.5	19.5
	6/5/2006	ND<2.5	19.5

Rank Sum = 214.5

Rank Mean = 19.5

Background Rank Sum = 214.5

Background Rank Mean = 19.5

### Compliance Wells

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Well ID	Date	Result	Rank
GWB-6/MW-6	7/30/2002	ND<2.5	19.5
	9/24/2002	ND<2.5	19.5
	10/21/2002	ND<2.5	19.5
	12/3/2002	ND<2.5	19.5
	6/24/2003	ND<2.5	19.5
	12/17/2003	ND<2.5	19.5
	6/15/2004	ND<2.5	19.5
	12/28/2004	ND<2.5	19.5
	6/13/2005	ND<2.5	19.5
	12/5/2005	ND<2.5	19.5
	6/5/2006	ND<2.5	19.5

Rank Sum = 214.5

Rank Mean = 19.5

---

GWC-13/MW-13	7/30/2002	300	62
	9/24/2002	381	64
	10/21/2002	348	63
	12/3/2002	391	65
	6/24/2003 ~	44	47
	12/17/2003 ~	99.5	56
	6/15/2004 ~	127	57
	12/28/2004	81	53
	6/13/2005 ~	45.3333	48
	12/6/2005	60	51
	6/5/2006	92	55

Rank Sum = 621  
Rank Mean = 56.4545

---

GWC-14/MW-147/30/2002	43	46
9/24/2002 ~	47.5	50
10/21/2002	31	43
12/3/2002	27	42
6/24/2003	5	39
12/17/2003	ND<2.5	19.5

Rank Sum = 239.5  
Rank Mean = 39.9167

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GWC-5/MW-5	7/30/2002	ND<2.5	19.5
	9/24/2002	ND<2.5	19.5
	10/21/2002	ND<2.5	19.5
	12/3/2002	ND<2.5	19.5
	6/24/2003	ND<2.5	19.5
	12/17/2003	ND<2.5	19.5
	6/15/2004	ND<2.5	19.5
	12/28/2004	ND<2.5	19.5
	6/13/2005	ND<2.5	19.5
	12/6/2005	ND<2.5	19.5
	6/5/2006	ND<2.5	19.5

Rank Sum = 214.5  
Rank Mean = 19.5

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GWC-17/MW-176/15/2005	ND<2.5	19.5
12/6/2005	ND<2.5	19.5
6/5/2006	ND<2.5	19.5

Rank Sum = 58.5  
Rank Mean = 19.5

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GWC-18/MW-186/15/2005	ND<2.5	19.5
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Rank Sum = 19.5  
Rank Mean = 19.5

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GWA-7/MW-7	7/30/2002 ~	184.5	59
	9/24/2002	32	44
	10/21/2002	221	61
	12/3/2002	210	60
	6/24/2003	23	41
	12/17/2003	34	45
	6/15/2004	46	49
	12/28/2004 ~	144	58
	6/14/2005	22	40
	12/6/2005 ~	86.5	54
	6/5/2006 ~	80	52

Rank Sum = 563  
Rank Mean = 51.1818

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### Calculation Results:

Kruskal-Wallis H Statistic = 46.7634

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 58.4335

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

46.7634 > 14.0671 indicating a significant group difference at 5% significance level

58.4335 > 14.0671 indicating a significant group difference at 5% significance level when adjusted for ties



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### Individual Well Comparisons at 1% Significance Level per Comparison

1% Z score is 2.32634

Mean background rank is 19.5

Well	Mean Rank	Dif from Bkg	Critical Value
GWB-6/MW-6	19.5	0	18.7556
GWC-13/MW-13	56.4545	36.9545	18.7556
GWC-14/MW-14	39.9167	20.4167	22.3236
GWC-5/MW-5	19.5	0	18.7556
GWC-17/MW-17	19.5	0	28.6496
GWC-18/MW-18	19.5	0	45.9416
GWA-7/MW-7	51.1818	31.6818	18.7556

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### 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 19.5

Well	Mean Rank	Dif from Bkg	Critical Value
GWB-6/MW-6	19.5	0	19.8112
GWC-13/MW-13	56.4545	36.9545	19.8112
GWC-14/MW-14	39.9167	20.4167	23.58
GWC-5/MW-5	19.5	0	19.8112
GWC-17/MW-17	19.5	0	30.2621
GWC-18/MW-18	19.5	0	48.5272
GWA-7/MW-7	51.1818	31.6818	19.8112